

Chapter 2

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Moose at Moose Bog near Nulhegan Basin Division

The Planning Process

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Introduction

This chapter highlights Service policies, legal mandates, Service and Refuge System conservation priorities and initiatives, and existing Federal, regional, state, and local resource plans that influenced development of this final CCP/EIS. We follow that discussion with a description of the Refuge System's conservation planning process steps, indicating what we accomplished at each step as we developed this final plan. The final sections in this chapter detail the issues, concerns, and opportunities that were raised during the planning process, and how we intend to address them.

Service Policies, Legal Mandates, Service and Refuge System Conservation Priorities and Initiatives, and Resource Plans Guiding the Planning Process

As part of the Refuge System, Conte Refuge is subject to all applicable Federal laws, regulations, and policies pertaining to refuge management and administration. This section presents the Service and Refuge System mission, policy, legal mandates, and conservation priorities that directly influenced the development of this final CCP/EIS.

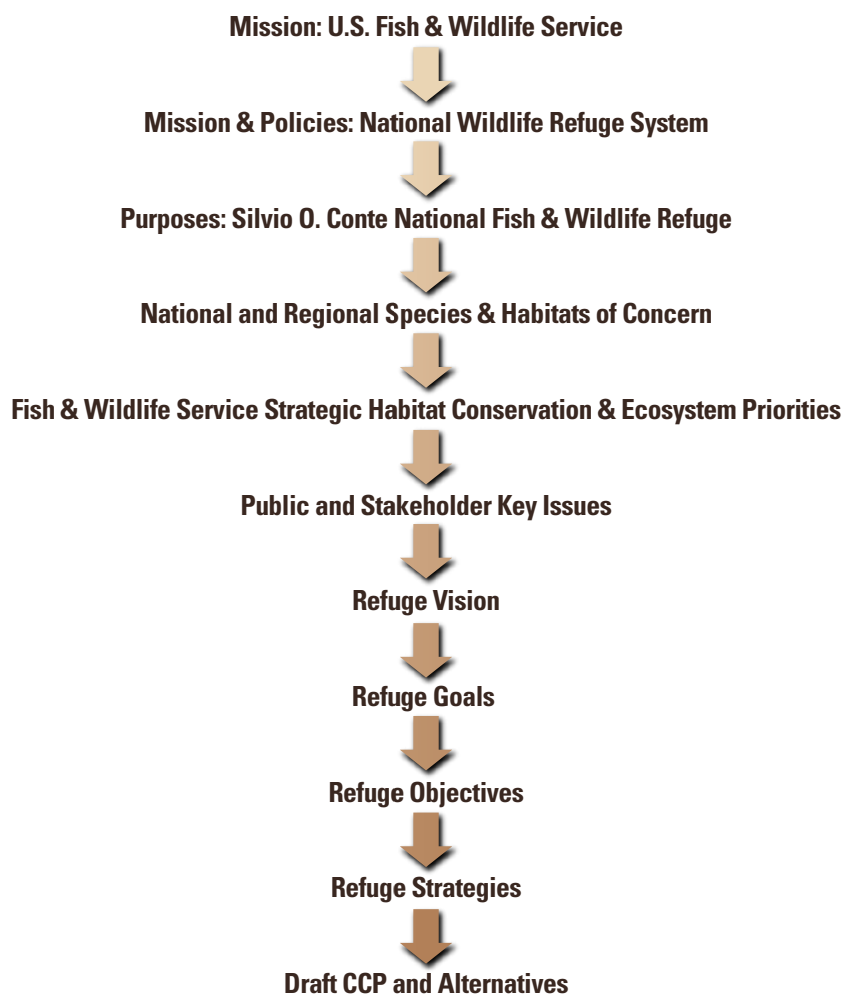


Figure 2.1. Information Used in Development of a CCP

The U.S. Fish and Wildlife Service and its Mission

The Service, an agency in the Department of the Interior (DOI), administers the Refuge System, along with many other conservation programs. The Service's mission is: "Working with others, to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people."

Through legislation, Congress entrusts certain natural resources, referred to as “Federal trust resources,” to the Service for conservation and protection. These include migratory birds, federally listed endangered or threatened species, migratory inter-jurisdictional fish, wetlands, certain marine mammals, and national wildlife refuges. The Service also enforces Federal wildlife laws and international treaties on importing and exporting wildlife, assists states with their fish and wildlife programs through grants, regulates recreational harvest of migratory game birds, advises other Federal agencies on reducing their operational impacts to fish and wildlife, hosts major conservation partnerships, offers partnership grants for national and international habitat conservation, and helps countries around the world develop conservation programs.

Although Service and Refuge System policies and the refuge’s purposes provide foundation for its management, other Federal laws, executive orders (Presidential, Secretarial, or Service Director), treaties, interstate compacts, and regulations on the conservation and protection of natural and cultural resources also affect how national wildlife refuges are managed. The Digest of Federal Resource Laws of Interest to the Service provides a comprehensive list and description of all Federal laws under which the Service functions, including administrative laws, treaties, executive orders, interstate compacts, and memoranda of agreement. The digest is available online at: <http://fws.gov/laws/Lawsdigest.html> (USFWS 2010a; accessed August 2016).

The Service Manual describes the Services authorities and responsibilities, as well as provides guidance on its activities (USFWS 2013a; <http://www.fws.gov/policy/manuals/>; accessed August 2016). Part of the Service’s responsibilities includes regulating certain activities of public and private interests, such as development of lands used by endangered and threatened species or hunting on national wildlife refuges. These regulated activities are published in the U.S. Code of Federal Regulations (CFR). Most of the current regulations that pertain to the Service are issued in 50 CFR parts 1 to 99 that can be viewed at: <https://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR> (GPO 2013; accessed August 2016).

Policies are developed to implement and administer laws and directives. The Refuge System manual provides a central reference for current policy governing the operation and management of the Refuge System not covered by the Service manual, including technical information on implementing Refuge System policies and guidelines. This manual can be reviewed at: <http://www.fws.gov/policy/manuals/> (accessed August 2016). Policies can also be viewed at: <http://www.fws.gov/refuges/policiesandbudget/refugepolicies.html> (USFWS 2012a; accessed August 2016). Following are brief descriptions of the policies that most directly pertain to the development of CCPs.

The National Wildlife Refuge System, its Mission, and Policies

The Refuge System is the world’s largest collection of lands and waters set aside specifically for the conservation of wildlife and ecosystem protection. The Refuge System began in 1903, when President Theodore Roosevelt designated Pelican Island, a pelican and heron rookery in Florida, as a bird sanctuary. Today, more than 560 national wildlife refuges are part of the Refuge System. They encompass more than 150 million acres of lands and waters in all 50 States and several island territories. Over 40 million visitors hunt, fish, observe and photograph wildlife, or participate in environmental education and interpretive activities on national wildlife refuges across the nation each year (Carver and Caudill 2007).

In 1997, the Refuge Improvement Act passed as an amendment to the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 6688dd, *et seq.*).

The amended law established a unifying mission for the Refuge System, a new process for determining compatible public use activities on refuges, and the requirement to prepare CCPs for each refuge. The Refuge Improvement Act states, first, that the Refuge System must focus on wildlife conservation. It further states that the Refuge System's national mission, coupled with the purpose(s) for which each refuge was established, will provide the principal management direction for each refuge. As provided by Section 4 of the Refuge Improvement Act, the mission of the Refuge System is: "To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

In July 2011, the Refuge System convened the "Conserving the Future: Wildlife Refuges and the Next Generation" conference to renew and update its 1999 vision document, originally called Fulfilling the Promise. After the conference and an extensive public engagement process, a renewed vision document was finalized in October 2011 (USFWS 2011). The document has 24 recommendations, covering a variety of topics from habitat and species management, visitor services, refuge planning, land conservation, communications, building partnerships, and urban refuges. Currently, implementation teams are developing strategies to help us accomplish the vision. We will incorporate implementation strategies, as appropriate, in our refuge step-down plans. You may view the document and see the latest updates at: <http://americaswildlife.org/> (National Wildlife Refuge Association 2013; accessed August 2016).

The following list of Refuge System policies represents those that most directly affected the development of this final CCP/EIS. They are presented in the order in which they appear in the Service manual, in Series 600 (Land Use and Management), Parts 601 to 609 covering refuge management.

Policy on National Wildlife Refuge System Mission, Goals, and Refuge Purposes:

This policy (601 FW 1, USFWS 2006a) presents the mission and goals of the Refuge System and their relationship to refuge purposes. This policy recognizes the priority of the Refuge System for management activities and uses set forth in the Refuge Improvement Act (i.e., conserve fish, wildlife, and plants and their habitats; facilitate compatible wildlife dependent recreational uses; and other uses). This policy describes the Refuge System mission, revises the Refuge System goals, and provides guidance for identifying or determining the purpose(s) of individual refuges and their incremental land additions within the Refuge System.

Policy on Maintaining Biological Integrity, Diversity, and Environmental Health:

This policy (601 FW 3, USFWS 2001) provides guidance on maintaining or restoring the biological integrity, diversity, and environmental health of the Refuge System, including protecting the broad spectrum of fish, wildlife, and habitat resources found in refuge ecosystems. The policy includes the following definitions:

- Biological diversity is the "variety of life and its processes, including the variety of living organisms, the genetic differences among them, and communities and ecosystems in which they occur."
- Biological integrity is the "biotic composition, structure, and functioning at genetic, organism, and community levels comparable with historic conditions, including the natural biological processes that shape genomes, organisms, and communities."

- Environmental health is the “composition, structure, and functioning of soil, water, air, and other abiotic features comparable with historic conditions, including the natural abiotic processes that shape the environment.”

The policy also provides refuge managers with a process for evaluating the best management direction to prevent additional degradation of environmental conditions and restore lost or severely degraded environmental components. Guidelines are provided for dealing with external threats to the biological integrity, diversity, and environmental health of a refuge and its ecosystem.

Policy on Coordination and Cooperative Work with State Fish and Wildlife Agencies: This policy (601 FW 7; 2008a) establishes procedures for coordinating and working cooperatively with state fish and wildlife agency representatives on management of units of the Refuge System. The purpose of this policy is to ensure timely and effective cooperation with state fish and wildlife agencies during the course of acquiring and managing refuges. A focus of this policy is the importance of state agency involvement in CCPs. Specifically, the policy calls for inviting state fish and wildlife agency participation on CCP core teams, and otherwise provide them timely and meaningful participation opportunities throughout the planning process, and that we include a summary of state comments in the final CCP. With regard to hunting and fishing programs developed for a refuge, we are to ensure regulations for those programs, are, to the extent practicable, consistent with state fish and wildlife laws, regulations, and management plans.

Policy on Refuge System Planning: The requirements for refuge planning are covered in two chapters (602 FW 1, USFWS 2000a; 602 FW 3, USFWS 2000b). Part 602 FW 1 provides an overview of Refuge System planning, identifies who is responsible, defines terms, and establishes when certain refuge plans are required. This chapter stipulates that all refuges will be managed in accordance with an approved CCP, which, when implemented, will achieve refuge purposes; help fulfill the Refuge System mission; maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System; help achieve the goals of the National Wilderness Preservation System (National Wildlife Preservation System); and meet other mandates. Further, this policy states that the CCP will guide management decisions and set forth goals, objectives, and strategies to accomplish these ends. It also establishes that refuge step-down management plans may also be required to provide additional details about meeting CCP goals and objectives and to describe strategies and implementation schedules. This policy requires that each plan will be founded on principles of sound fish and wildlife management and available science, and be consistent with legal mandates and our other policies, guidelines, and planning documents. Finally, this policy requires that we comply with NEPA and its regulations in developing plans, and provide opportunities for others to participate in refuge planning, including other Service programs; Federal, state, and local agencies; Tribal governments; conservation organizations; adjacent landowners; and the public.

The purpose of chapter 602 FW 3 is to describe a systematic decision-making process that fulfills the requirements for developing a CCP. This chapter provides guidance, step-by-step direction, and establishes minimum requirements for all CCPs. This chapter establishes the following goals for comprehensive conservation planning:

- A. To ensure that wildlife comes first in the Refuge System and that we manage each refuge to help fulfill the mission of the Refuge System, maintain and, where appropriate, restore the ecological integrity of each refuge and the Refuge System, as well as achieve the specific purposes for which the refuge was established.
- B. To provide a clear and comprehensive statement of desired future conditions for each refuge or planning unit.
- C. To encourage use of an ecosystem approach when we conduct refuge planning. This includes conducting concurrent refuge planning for refuges within the same watershed or ecosystem and considering the broader goals and objectives of the refuges' ecosystems and watersheds when developing management direction (see Ecosystem Approach to Fish and Wildlife Conservation [Part 052 of the Fish and Wildlife Service Manual]).
- D. To support management decisions and their rationale by using a thorough assessment of available science derived from scientific literature, on-site refuge data, expert opinion, and sound professional judgment.
- E. To ensure that the six priority wildlife-dependent recreational uses receive priority consideration during the preparation of CCPs.
- F. To provide a forum for the public to comment on the type, extent, and compatibility of uses on refuges, including priority wildlife-dependent recreational uses.
- G. To provide a uniform basis for budget requests for operational, maintenance, and capital improvement programs.
- H. To ensure public involvement in refuge management decisions by providing a process for effective coordination, interaction, and cooperation with affected parties, including Federal agencies, state conservation agencies, Tribal governments, local governments, conservation organizations, adjacent landowners, and interested members of the public.

According to refuge policy, a final approved CCP is intended to provide the refuge manager with a 15-year management plan for the conservation of fish, wildlife, and plant resources and their related habitats, while providing opportunities for compatible wildlife-dependent recreational uses. To the extent practical, these plans should be consistent with respective state's fish and wildlife conservation plans. Below we highlight where in this final CCP/EIS we include certain specific details required by Section 7 of the Refuge Improvement Act and planning policy:

- The purposes of the refuge (see chapter 1).
- The distribution, migration patterns, and abundance of fish, wildlife, and plant populations and related habitats within the planning unit (see chapter 3).
- The archaeological and cultural values of the planning unit (see chapter 3).
- Areas within the planning unit that are suitable for use as administrative sites or visitor facilities (see chapters 3 and 4).
- Significant problems that may adversely affect the populations and habitats of fish, wildlife, and plants within the planning unit and the actions necessary to correct or mitigate such problems (see chapters 2, 3, and 4).

- Opportunities for compatible wildlife-dependent recreational uses (see chapters 2, 3, and 4).

Policy on Appropriate Refuge Uses: Federal law and Service policy provide the direction and planning framework for protecting the Refuge System from inappropriate, incompatible, or harmful human activities and ensuring that all visitors can enjoy its lands and waters. This Service policy (603 FW 1) provides a national framework for determining appropriate refuge uses to prevent or eliminate those that should not occur in the Refuge System. It describes the initial decision process the refuge manager follows when first considering whether to allow a proposed use on a refuge. An appropriate use must meet at least one of the following four conditions:

- The use is a wildlife-dependent recreational use, as identified in the Improvement Act.
- The use contributes to fulfilling the refuge purpose(s), the Refuge System mission, or goals or objectives described in a refuge management plan approved after October 9, 1997, the date the Improvement Act became law.
- The use involves the take of fish or wildlife under state regulations.
- The use has been found to be appropriate after concluding a specified findings process using the 10 specific criteria included in the policy.

Appendix D includes the findings of appropriateness for Conte Refuge. You may view the appropriateness policy on the Web at: <http://www.fws.gov/policy/603fw1.html> (accessed August 2016).

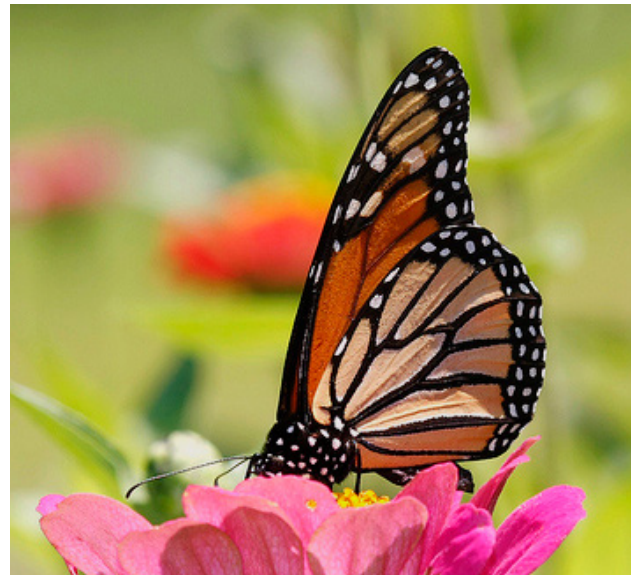
Policy on Compatibility: This policy (603 FW 2) complements the appropriateness policy and provides guidance on how to prepare a compatibility determination.

The refuge manager first must find a use appropriate before determining if the use is compatible. If the proposed use is found not to be appropriate, a compatibility determination is unnecessary and the use is not allowed. According to this policy, a compatible use is one "... that will not materially interfere with or detract from the fulfillment of the mission of the Refuge System or the purposes of the refuge."

Other guidance in that chapter follows:

- The Refuge Improvement Act and its regulations require that the refuge manager must find a public use compatible before it is allowed on a refuge.

Monarch butterfly



Ron Holmes/USFWS

- The act defines six wildlife-dependent uses that are to receive enhanced consideration on refuges: hunting, fishing, wildlife observation, photography, environmental education, and interpretation. The refuge manager may authorize these six priority uses on a refuge when they are compatible and consistent with public safety.
- When the refuge manager publishes a compatibility determination, it will specify the required maximum reevaluation dates: 15 years for wildlife-dependent recreational uses or 10 years for other uses. However, the refuge manager may reevaluate the compatibility of a use at any time: for example, sooner than its mandatory date, or even before we complete the CCP process, if new information reveals unacceptable impacts or incompatibility with refuge purposes (603 FW 2.11, 2.12).
- The refuge manager may allow or deny any use, even one that is compatible, based on other considerations such as public safety, policy, or available funding.

Appendix D includes the draft compatibility determinations for Conte Refuge. You may view the compatibility policy on the Web at: <http://www.fws.gov/policy/603fw2.html> (accessed August 2016).

Policy on Wildlife-Dependent Recreation Uses: This policy (605 FW 1-7) presents specific guidance about wildlife-dependent recreation programs within the Refuge System. We develop our wildlife-dependent recreation programs in consultation with state fish and wildlife agencies and with stakeholder input based on the following criteria:

- Promotes safety of participants, other visitors, and facilities.
- Promotes compliance with applicable laws and regulations and responsible behavior.
- Minimizes or eliminates conflict with fish and wildlife population or habitat goals or objectives in an approved plan.
- Minimizes or eliminates conflicts with other compatible wildlife-dependent recreation.
- Minimizes conflicts with neighboring landowners.
- Promotes accessibility and availability to a broad spectrum of the American people.
- Promotes resource stewardship and conservation.
- Promotes public understanding and increases public appreciation of America's natural resources and our role in managing and conserving these resources.
- Provides reliable/reasonable opportunities to experience wildlife.
- Uses facilities that are accessible to people and blend into the natural setting.
- Uses visitor satisfaction to help to define and evaluate programs.

Policy on Managing Cultural Resources: This policy (614 FW 1-6) provides the authorities, definitions, and responsibilities for managing cultural resources on the lands, facilities, and programs we administer. Our policy is to identify,

protect, and manage cultural resources located on our lands and affected by Service and Service-authorized activities, in consultation with tribes where appropriate, and in compliance with cultural resources legislation. A full list of relevant legal authorities for cultural resources management can be found in the handbook as listed above. The scope of the Service's cultural resources program is broad, including both prehistoric and historic archaeological resources, historic and architectural properties, and areas or sites of traditional or religious significance to Native Americans.

Program objectives are to:

- Recognize the intrinsic value of the Service's cultural resources by properly protecting and maintaining them in compliance with historic preservation legislation and Departmental policy;
- Plan for the potential public and scientific use of Service-managed cultural resources for the benefit of present and future generations;
- Maintain and preserve unique cultural resources and make them applicable to our ongoing natural resource and wildlife conservation mission;
- Identify, evaluate the importance of, and seek the appropriate protective designation of cultural resources in compliance with existing legal requirements, regulations, and professional standards;
- Ensure that when we are conducting activities to meet the Service's mission and program goals, we do not inadvertently transfer, sell, demolish, or alter our cultural resources until we can adequately identify them, evaluate impacts, and make informed decisions and necessary plans;
- Ensure that when acquiring property, potential historic resources are identified prior to acquisition and anticipatory demolition does not occur;
- Prevent or avoid damage and deterioration to cultural resources that result from erosion, abandonment, lack of maintenance, and neglect;
- Encourage and enhance educational, interpretive, and research opportunities for Service cultural resources consistent with overall Service management objectives;
- Ensure employees recognize the importance of cultural resources to habitat and land management issues and safeguard them so that the Service can maximize opportunities to enhance the public's knowledge and understanding of the environmental and cultural contexts of conservation; and
- Protect and manage cultural resources that are important for maintaining the traditional culture of Native American tribes, Native Hawaiians, Alaska natives, and other traditional communities.

Policy on Climate Change Adaptation: This policy (056 FW 1) establishes overall Service policy and staff responsibilities on climate change adaptation. The policy recognizes the role adaptation plays in reducing the negative impacts of climate change on the Service's trust resources. The policy directs the Service to take steps to understand, evaluate, and address the impacts of climate change, and then use this information to effectively and efficiently implement climate change adaptation measures into the Service's operations.

Director's Land Protection Planning Interim Guidance: This guidance was issued on May 18, 2016. It is intended to ensure that the strategic growth of the Refuge System is based on explicit priorities, rigorous biological planning, and conservation design that support achieving measurable population objectives that are developed in cooperation with State fish and wildlife agencies and our conservation partners. This guidance applies to new refuges and to additions to existing refuges where land acquisition is the proposed method of land protection.

Chief's Guidance on Landscape Conservation Design: This guidance was issued on October 3, 2016. Its purpose is to help build a consistent understanding across the Refuge System of what constitutes a landscape conservation design (LCD) and to provide guidance on our responsibilities in the collaborative processes and product development associated with LCD. The guidance is also designed to help regional leadership prioritize the participation in, and advocacy for, LCDs that are relevant to priorities of the Refuge System, regardless of planning funding levels. _

Other Mandates

Although Service and Refuge System policy and the purposes of each refuge provide the foundation for a refuge's management, refuges are also administered consistent with other Federal laws, executive orders, treaties, interstate compacts, and regulations on conserving and protecting natural and cultural resources. A centralized library of Servicewide policies, executive orders, Secretarial orders, Service Director's orders, and the "Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service" can be viewed at: <http://www.fws.gov/policy/> (accessed August 2016).

Federal Laws

Below we highlight some of the more than 100 Federal laws that could affect refuge planning. The laws below directly influenced development of this final CCP/EIS.

National Environmental Policy Act: NEPA (42 U.S.C. 4321 *et seq.*; 83 Stat. 852) requires Federal agencies to take a systematic, interdisciplinary approach to analyze the effects of agency decision-making on the human environment (Bass et al. 2001). This final CCP/EIS represents our compliance with NEPA and the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1500–1508). The primary purpose of an EIS is to define a proposed action, describe reasonable alternatives to that action, disclose potential environmental impacts and any actions that would avoid or minimize adverse impacts, and provide opportunities for public review and comment before a final decision is made.

Historic Resources: Federal laws require the Service to identify and preserve its important historic structures, archaeological sites, and artifacts. NEPA mandates our consideration of cultural resources in planning Federal actions. The Refuge Improvement Act requires that the CCP identify the refuge's archaeological and cultural values. The following four Federal laws also cover historic and archaeological resources on national wildlife refuges:

- The Archaeological Resources Protection Act (ARPA) (16 U.S.C. § 470aa–470ll; Public Law 96–95), approved October 31, 1979 (93 Stat. 721). ARPA establishes detailed requirements for issuance of permits for any excavation for, or removal of, archaeological resources from Federal or Native American lands. It also establishes civil and criminal penalties for the unauthorized excavation, removal, or damage of those resources; for any trafficking in those resources removed from Federal or Native American land in violation of any provision

of Federal law; and for interstate and foreign commerce in such resources acquired, transported, or received in violation of any state or local law.

- The Archaeological and Historic Preservation Act (AHPA) (16 U.S.C. § 469–469c; Public Law 86–523), approved June 27, 1960 (74 Stat. 220), as amended by Public Law 93–291 approved May 24, 1974 (88 Stat. 174). AHPA carries out the policy established by the Historic Sites Act (see below). It directs Federal agencies to notify the Secretary of the Interior whenever they find that a Federal or federally assisted licensed or permitted project may cause the loss or destruction of significant scientific, prehistoric, or archaeological data. The act authorizes the use of appropriated, donated, or transferred funds for the recovery, protection, and preservation of that data.
- The Historic Sites, Buildings, and Antiquities Act (16 U.S.C. § 461–462, 464–467; 49 Stat. 666) of August 21, 1935, popularly known as the Historic Sites Act, as amended by Public Law 89–249, approved October 9, 1965 (79 Stat. 971). This Historic Sites Act declares it a national policy to preserve historic sites and objects of national significance, including those located on refuges. It provides procedures for designating, acquiring, administering, and protecting these sites and objects. Among other things, National Historic and Natural Landmarks are designated under the authority of this act.
- The National Historic Preservation Act of 1966 (NHPA) (16 U.S.C. § 470–470b, 470c–470n), Public Law 89–665, approved October 15, 1966 (80 Stat. 915), and repeatedly amended. The NHPA provides for the preservation of significant historical features (buildings, objects, and sites) through a grant-in-aid program to the states. It establishes the National Register of Historic Places (National Register) and a program of matching grants under the existing National Trust for Historic Preservation (16 U.S.C. § 468–468d). This act establishes an Advisory Council on Historic Preservation, which became a permanent, independent agency in Public Law 94–422, approved September 28, 1976 (90 Stat. 1319). The act created the Historic Preservation Fund. It directs Federal agencies to take into account the effects of their actions on items or sites listed or eligible for listing on the National Register.

The Service also owns and cares for museum properties. The most common are archaeological, zoological, and botanical collections, and historical photographs, objects, and art. Each refuge maintains an inventory of its museum property. Our regional museum property coordinator in Hadley, Massachusetts, guides the refuges in caring for that property, and helps us comply with the Native American Grave Protection and Repatriation Act and Federal regulations governing Federal archaeological collections. Our program ensures that those collections will remain available to the public for learning and research.

The Wilderness Act of 1964: (16 U.S.C. 1131–1136; Public Law 88–577) establishes a NWPS that is composed of federally owned areas designated by Congress as “wilderness areas.” The act directs each agency administering designated wilderness to preserve the wilderness character of areas within the NWPS, and to administer the NWPS for the use and enjoyment of the American people in a way that will leave those areas unimpaired for future use and enjoyment as wilderness. The act also directs the Secretary of the Interior, within 10 years, to review every roadless area of 5,000 acres or more and every roadless island (regardless of size) within National Wildlife Refuge and National Park systems for inclusion in the NWPS. Service planning policy (602 FW 3) requires that we evaluate the potential for wilderness on refuge lands, as appropriate, during the CCP planning process. At this time, we are not recommending that any existing refuge lands be designated as wilderness areas. Our wilderness review for this refuge is detailed in appendix E.

The Wild and Scenic Rivers Act of 1968: (16 USC 1271-1287; Public Law 90-542) as amended, selects certain rivers of the nation possessing remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, preserves them in a free-flowing condition, and protects their local environments. Service planning policy (602 FW 3) requires that we evaluate the potential for wild and scenic rivers designation on refuge lands, as appropriate, during the CCP planning process. Our wild and scenic rivers review for this refuge is detailed in appendix F.

Other Laws: Chapter 5, “Environmental Consequences,” evaluates this plan’s compliance with the acts noted above, and with the Clean Water Act of 1977 as amended (33 U.S.C. 1251, et seq.; Public Law 107–303), the Clean Air Act of 1970 as amended (42 U.S.C. 7401 *et seq.*), and the ESA of 1973 (16 U.S.C. 1531–1544), as amended.

Presidential, Secretary, and Service Director Orders

The Presidential Executive Order 13443-Facilitation of Hunting Heritage and Wildlife Conservation: This order, issued on August 16, 2007, directs Federal agencies that have programs and activities affecting public land management, outdoor recreation, and wildlife management, including the Department of the Interior and the Department of Agriculture, to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat. Federal agencies are directed to pursue certain activities listed in the executive order, consistent with their missions. Those activities include managing wildlife and habitats on public lands in a manner that expands and enhances hunting opportunities, and working with state and Tribal governments to manage wildlife and habitats to foster healthy and productive populations and provide appropriate opportunities for the public to hunt those species. The Service issued a memorandum on November 30, 2007, outlining short-term and long-term steps the agency will take to implement the order, including promoting new youth hunts, expanding education on America’s hunting heritage, and using Web-based technology and the evolving social media to improve communication on hunting opportunities.

The Presidential Executive Order 13653–Preparing the United States for the Impacts of Climate Change: This order, issued on November 1, 2013, directs federal agencies to build on existing agency Adaptation Plans first issued in 2013, by continuing to develop, implement, and update comprehensive plans that integrate consideration of climate change into agency operations and overall mission objectives. The plans must identify and assess climate change related impacts on and risks to the agency’s ability to accomplish its missions, operations, and programs; describe the agency’s plans and actions to manage climate risks in the near term and build resilience in the short and long term; describe how they will deal with any climate change related risk that is deemed so significant that it impairs an agency’s statutory mission or operation;” and discuss how they will consider the costs and benefits of actions needed to improve climate adaptation and resilience.

The Presidential Executive Order 13693–Planning for Federal Sustainability in the Next Decade: This purpose of this order, issued on March 19, 2015 is to maintain Federal leadership in sustainability and greenhouse gas emission reductions. It introduces new requirements and expands upon previous requirements for Federal agencies to reduce greenhouse gas emissions, improve energy conservation and use of renewable energy, use green building technology, improve agency water use and efficiency (including stormwater management), divert at least 50% of non-hazardous solid waste annually, and other requirements.

The order establishes a “Climate Change Response Council” that will execute a coordinated Department-wide strategy to increase scientific understanding and the development of adaptive management tools to address the impact of climate change on our natural and cultural resources. The Council will help coordinate activities within and among Federal agencies. Land management agencies are directed to pursue appropriate activities to reduce their carbon footprint, adapt water management strategies to address the possibility of a shrinking water supply, and protect and manage land in anticipation of sea level rise, shifting wildlife populations and habitats, increased wildland fire threats, and an increase in invasive and exotic species. This order can be accessed at: <http://www.doi.gov/whatwedo/climate/cop15/upload/SecOrder3289.pdf> (accessed August 2016).

Landscape Conservation Cooperatives

As part of this secretarial order, the Secretary also directed the Department of the Interior’s bureaus to develop a network of Landscape Conservation Cooperatives (LCCs) to respond to stressors, such as climate change.

LCCs are public-private partnerships composed of states, tribes, Federal agencies, nongovernmental organizations, universities, and others (NALCC 2013). Although originally developed in the context of climate change concerns, LCCs are working to transcend political and jurisdictional boundaries to address a variety of complex, broad-scale conservation issues and opportunities in a holistic, collaborative, adaptive, and science-based approach. The science provided by these partnerships will inform future habitat management and land conservation planning, as well as help direct research and monitoring to support these efforts.

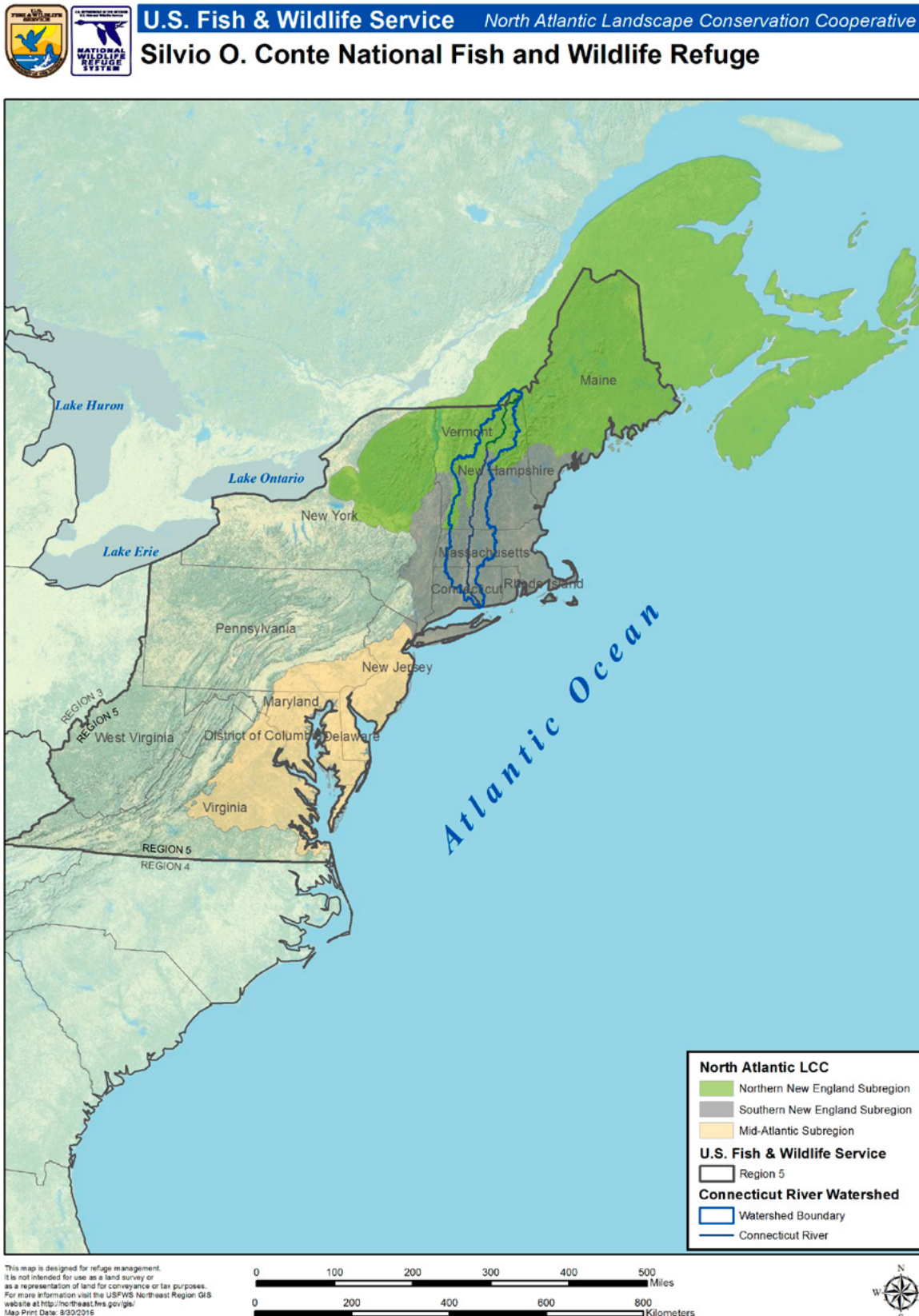
Currently, a network of 22 individual LCCs has been established. The Connecticut River watershed lies within the North Atlantic LCC, which is led by the Service’s Northeast Region (map 2.1). The North Atlantic LCC extends from the Atlantic coast of Canada to central Virginia, including most of New England and the Mid-Atlantic Coast. The vision of this LCC is to conserve landscapes that sustain our natural resources and cultural heritage through active collaboration between conservation partners in the North Atlantic region.

We have used a variety of information from the North Atlantic LCC while developing this final CCP/EIS. In particular, we used the North Atlantic LCC’s lists of terrestrial and aquatic representative species to help us identify priority refuge resources of concern (USFWS 2013b, http://www.fws.gov/northeast/science/representative_species.html; accessed August 2016). According to the North Atlantic LCC, a representative species is a species “whose habitat needs, ecosystem function, or management responses are similar to a group of other species.” Based on this, it is assumed that land conservation and habitat management for that representative species will also address the needs of other species. We include our lists of priority refuge resources in appendix A. To learn more about the process we used to identify priority refuge resources of concern, please see appendix B “Process for Establishing Refuge Focal Species and Priority Habitats.”

In addition, during 2014-15 we participated in a project with the North Atlantic LCC, and about 30 other Federal, state, and non-governmental conservation partners to pilot the development of a landscape conservation design¹ for the Connecticut River watershed. The *Connect the Connecticut* landscape conservation design integrated the best available spatial and ecological scientific data to produce a complete design package. During the process, partners

¹ Landscape conservation design is a partner-driven approach to achieve a sustainable, resilient socio-ecological landscape. It is an iterative, collaborative, and holistic process resulting in strategic and spatial products that provide information, analytical tools, maps, and strategies to achieve landscape goals collectively held among partners.

Map 2.1. North Atlantic Landscape Conservation Cooperative (LCC) and the Connecticut River Watershed



This order supercedes Executive Order 13514 (“Federal Leadership in Environmental, Energy, and Economic Performance”). It also expands on the energy reduction and environmental performance requirements for Federal agencies identified in Executive Order 13423 (“Strengthening Federal Environmental, Energy, and Transportation Management”).

Secretarial Order 3289–Addressing the Impacts of Climate Change on America’s Water, Land, and Other Natural and Cultural Resources: This Order was issued on March 11, 2009, and establishes a Department-wide, science-based approach to increase understanding of climate change and to coordinate an effective response to its impacts on tribes and on the land, water, ocean, fish and wildlife, and cultural heritage resources that the Department manages.

This order replaces Secretarial Order No. 3226, Amendment No. 1, issued on January 16, 2009, and reinstates the provisions of Secretarial Order No. 3226, issued on January 19, 2001.

The Order calls for the incorporation of climate change into long-term planning documents such as CCPs: “Each bureau and office of the Department must consider and analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, developing multi-year management plans, and when making major decisions regarding potential use of resources under the Department’s purview (these requirements were set forth in Secretarial Order No. 3226, and remain in effect). Departmental activities covered by this Order include, but are not limited to, programmatic and long-term environmental reviews undertaken by the Department, management plans and activities developed for public lands, planning and management activities associated with oil, gas, and mineral development of public lands, and planning and management activities of water projects and water resources.

*Youth
Conservation Corps
tree restoration*



USFWS

identified shared conservation goals and objectives, and deliberated on how to combine and balance trade-offs among the various species and ecosystem components of the design. The final products include prioritized core and connector networks within the watershed that take into account the needs of both common and rare species of fish, wildlife, and the ecosystems that support them. The conservation design informed by this planning effort is intended to guide collective conservation actions within the watershed and connect to broader regional conservation goals for conserving sustainable fish and wildlife populations. The design process established through this pilot project is currently being applied in geographies within the Northeast region as well as the region as a whole (<http://northatlanticlcc.org/teams/rcoa>). It is also being used as a model for landscape conservation design. We will use results from *Connect the Connecticut*, where applicable, to inform the implementation of this CCP. More on this project can be found at: <http://connecttheconnecticut.org> (accessed August 2016).

For additional information on the North Atlantic LCC, its near-term priorities, and projects, visit: <http://northatlanticlcc.org/> (accessed August 2016). We will continue to partner with the North Atlantic LCC and adapt management if additional supporting information becomes available.

“Rising to the Urgent Challenge: Strategic Plan for Responding to Accelerating Climate Change”

This was a plan developed in 2010 in response to this order and Secretarial Order 3226, “Evaluating Climate Change Impacts in Management Planning” described above. This strategic plan establishes a basic framework for the Service’s work as part of the conservation community to help ensure the sustainability of fish, wildlife, plants, and habitats in the face of accelerating climate change (USFWS 2010b). It also details specific steps the Service will take during the next 5 years to implement the strategic plan. The plan can be accessed online at: <http://www.fws.gov/home/climatechange/strategy.html> (accessed August 2016).

The strategic plan’s six guiding principles are:

- (1) We will continually evaluate our priorities and approaches, make difficult choices, take calculated risks, and adapt to climate change.
- (2) We will commit to a new spirit of coordination, collaboration, and interdependence with others.
- (3) We will reflect scientific excellence, professionalism, and integrity in all our work.
- (4) We will emphasize the conservation of habitats within sustainable landscapes, applying our SHC (see 1-10) framework.
- (5) We will assemble and use state-of-the-art technical capacity to meet the climate change challenge.
- (6) We will be a leader in national and international efforts to address climate change.

The plan also lists three key strategies to address climate change: adaptation, mitigation, and engagement.

The Intergovernmental Panel on Climate Change (IPCC) defines adaptation as “Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects” (IPCC 2007). For

example, this could include raising river or coastal dikes. In the strategic plan, adaptation refers to planned management actions the Service will take to reduce the impacts of climate change on fish, wildlife, and their habitats. Adaptation forms the core of the Service's response to climate change and is the centerpiece of our strategic plan. This adaptive response to climate change will involve strategic conservation of terrestrial, freshwater, and marine habitats within sustainable landscapes.

The IPCC defines mitigation as technological changes or substitutions that reduce greenhouse gas emissions (IPCC 2007). Mitigation involves reducing our "carbon footprint" by using less energy, consuming fewer materials, and appropriately changing our land management practices. Mitigation is also achieved through biological carbon sequestration, which is a process in which carbon dioxide (CO₂) from the atmosphere is taken up by plants through photosynthesis and stored as carbon in biomass (e.g., tree trunks and roots). Sequestering carbon in vegetation, such as native hardwood forests or grassland, can often restore or improve habitat and directly benefit fish and wildlife.

Engagement involves reaching out to Service employees; local, national, and international partners in the public and private sectors; key stakeholders; and the general public to find solutions to the challenges to fish and wildlife conservation posed by climate change.

The Association of Fish and Wildlife Agencies (AFWA) has developed guidance for states as they update and implement their respective wildlife action plans (AFWA 2009). This publication, "Voluntary Guidance for States to Incorporate Climate Change into State Wildlife Action Plans and Other Management Plans," also includes strategies that will help conserve fish and wildlife species and their habitats and ecosystems as climate conditions change. The broad spatial and temporal scales associated with climate change suggest that management efforts that are coordinated on at least the regional scale will likely lead to greater success. The Service will work with our state partners, among others, to meet the climate change challenge.

The Service's Climate Change Web site at: <http://www.fws.gov/home/climatechange/strategy.html> (USFWS 2013c; accessed August 2016), provides detailed information on the priority actions the Service is taking to begin to implement the strategic plan.

Secretarial Order 3331–Supporting Watershed Partnerships: This order was issued on January 3, 2014, affirming the Department's commitment to supporting regionally or nationally significant rivers, their watersheds, and community-based watershed partnerships. It maintains the designation of the Connecticut River as a National Blueway, which recognizes the economic, recreation, and natural values of the Connecticut River watershed. The order recognizes the importance of watershed partnerships that work across Federal agencies, state, local, and Tribal governments, nonprofit organizations, private landowners, and businesses that are able to successfully accomplish their shared conservation objectives. This program is voluntary, and when sought out by local communities and stakeholders, Federal agencies will help support collaboration among communities and across jurisdictions to strive for an integrative adaptive approach for sustaining the whole river system. The order does not affect private property rights, does not create any new regulations, and would not interfere with any Federal, state, local, or Tribal laws or regulations.

Director's Order 217 – Collaboration with the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) to Conserve Listed, Candidate, and Other At-Risk Species: This order, issued on August 9, 2016, directs the Service to prioritize working with NRCS to promote voluntary conservation actions by non-Federal landowners and managers through Working Lands for

Other Conservation Priorities and Initiatives for the Refuge System

Wildlife and other wildlife conservation-focused programs. It supplements U.S. Fish and Wildlife Service policy on USDA Conservation Programs (504 FW 5). It calls for Service employees to work closely with NRCS to implement more effective and efficient programs that advance both agencies' missions, with a special emphasis on addressing conservation of at-risk and ESA-listed species. The order can be accessed online at <https://www.fws.gov/policy/do217.htm> 1 (accessed August 2016).

America's Great Outdoors

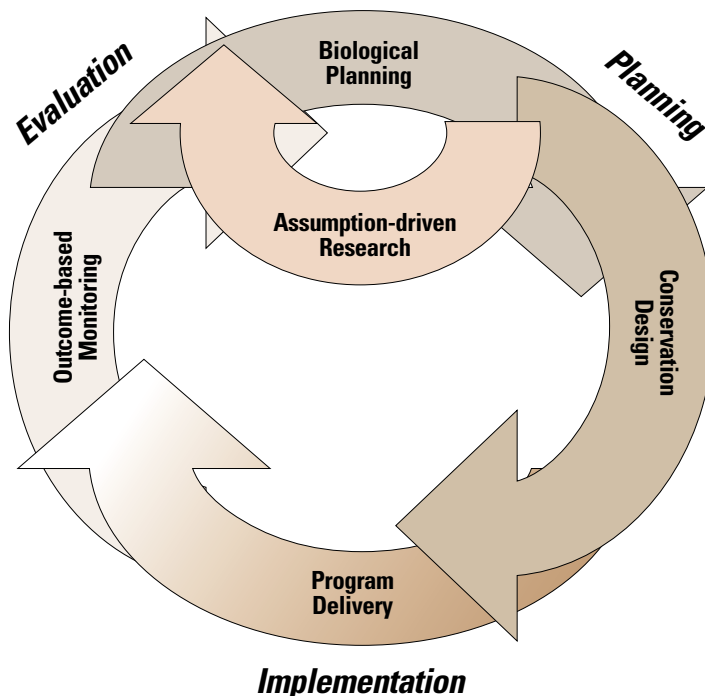
On April 16, 2010, President Obama launched the America's Great Outdoors (AGO) Initiative—a conservation and recreation effort to help increase Americans' connections to the outdoors. The premise of the AGO initiative is that lasting conservation solutions should come from citizens who share in the responsibility to conserve, restore, and provide better access to our nation's lands and waters.

In February 2011, America's Great Outdoors: A Promise to Future Generations Report (U.S. Department of the Interior et al. 2011) was released. This report laid the foundation for the initiative by identifying 10 major goals for the AGO, from expanding youth programs to increasing public awareness about conservation to better managing our public lands. Three of these goals focus on the Federal government's collective conservation and recreation efforts: creating and enhancing urban parks and greenspaces, renewing and restoring rivers, and conserving large, rural landscapes.

Strategic Habitat Conservation

SHC (USFWS 2008b, USFWS 2009) is a structured, science-driven approach for making efficient, transparent decisions about where and how to expend Service resources to conserve species that are limited by the amount or quality of habitat. It is an adaptive management framework that integrates planning, design, delivery, and evaluation (figure 2.2).

Figure 2.2. Strategic Habitat Conservation Process



The conservation problems we now face are much broader and complex and cannot be addressed within the boundaries of refuges alone. In response, the Service has adopted a management framework capable of facilitating conservation at the national and continental scale. This SHC approach becomes more urgent as we continue to address the ever-expanding, multiple threats of human development and invasive species that now converge in a 21st century environmental “perfect storm” with a changing climate. The former requires the Service to act quickly, while the latter demands that we move forward strategically. More specifically, SHC incorporates the following elements within a framework that allows Service managers to improve management actions based upon lessons learned from previous management plans and activities:

- Biological planning involves identifying priority trust resources, determining population objectives, assessing the current status of populations, identifying threats and limiting factors, and using models to describe the relationship of populations to habitat and other limiting factors. The conservation plans discussed below contribute to an SHC approach.
- Conservation design uses the results of biological planning to develop decision support tools, including maps and models, to guide management. It also identifies priority geographic areas for conservation and determines population-based objectives for habitat or other limiting factors based on these tools.
- Conservation delivery involves implementing conservation actions through programs and partnerships that are guided by decision support tools and targeted to achieve specific biological results (outcomes).
- Monitoring collects data to evaluate the effectiveness of conservation actions in reaching biological outcomes and to provide feedback to future planning and delivery.
- Research tests assumptions in biological planning and conservation design that have the greatest impact on management decisions and provides feedback to future planning.

Development of CCPs fully embraces the elements of SHC through the setting of specific goals, measurable objectives, and implementation strategies. There is ample room for evaluating the management effects of a CCP, and making appropriate adjustments over time, especially during revisions to CCPs and step-down management plans. More information regarding SHC can be found at: <http://www.fws.gov/landscape-conservation/> (accessed August 2016).

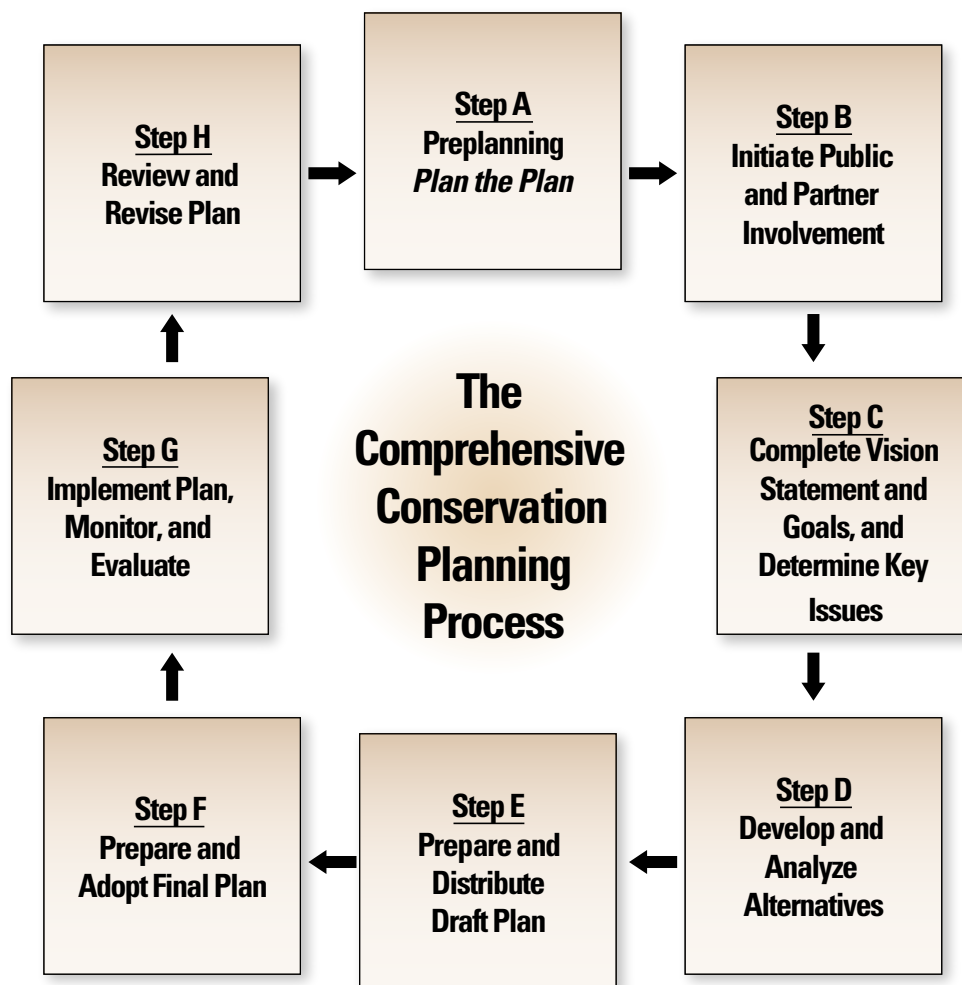
Conservation Plans and Initiatives Guiding Development of the CCP

In addition to the laws, orders, and policies previously presented in this chapter, the planning for, and management of, a refuge is guided by its establishment purpose(s) and vision, and further directed by goals and objectives detailed in an approved CCP. The goals and objectives, in particular, are greatly influenced by the ecological role a refuge may play within its local and regional ecological landscape. That role can be determined with the help of existing national and regional conservation plans that relate to the refuge’s planning analysis area.

Refuge planning should consider the goals and objectives of existing regional and ecosystem conservation plans for the landscapes in which the refuges reside to determine how a refuge can best contribute to the functioning of the ecosystems, while also achieving refuge purposes and vision. This is also important because the Service is directed to coordinate refuge planning with state fish and wildlife agencies, and, to the extent practicable, develop CCPs consistent with state fish and wildlife action plans. We also strive to be as consistent as possible with the conservation programs of Tribal, other Federal agency, and nongovernmental and private partners within the ecosystem.

The number of conservation plans and initiatives that relate to our project analysis area is staggering. New plans and information are being produced at such a rapid pace that it has been challenging for the planning team to stay current and be aware of them all. Appendix M includes a brief summary of the over 60 habitat, species, and other conservation plans we consulted during development of this final CCP/EIS. In particular, these plans were helpful as we developed our goals, objectives, and strategies.

Figure 2.3. The CCP Planning Process and its Relationship to NEPA.



The Comprehensive Conservation Planning Process

Service policy (602 FW 3) describes the eight-step comprehensive conservation planning process and provides detailed guidelines for developing CCPs (figure 2.3). This policy also ensures that CCPs comply with NEPA by integrating NEPA requirements into the CCP process. The full text of the policy and a detailed description of the planning steps are at: <http://policy.fws.gov/602fw3.html> (accessed August 2016).

Below we describe the planning process for the Conte Refuge's CCP/EIS, including each step's relationship to NEPA and what actions we have, or plan to have, completed under each of the eight steps. With the release of this final CCP/EIS, we have completed steps A through E.

Step A: Preplanning

During the preplanning step, the planning team:

- Reviews the refuge purposes, history, and establishing authority.
- Reviews the Service mission and policies; the Refuge System mission, vision, and goals; and other relevant legal mandates, Executive orders, and Secretarial orders.
- Gathers existing data and identifies knowledge gaps, including referring to other, existing conservation plans and initiatives.
- Identifies the purpose and need for the plan (see chapter 1).
- Conducts internal scoping to identify management issues and concerns, and opportunities to resolve them.
- Drafts a vision and goals for the refuge.

The planning team started the preplanning step for this CCP in 2006. We began to gather existing information on wildlife, habitat, historical and archaeological, and socioeconomic resources, as well as refuge management and administration. We also started mapping refuge habitats. Much of this information is included in chapter 3, which describes the existing physical, biological, and socioeconomic environment of the watershed and the refuge.

Step B: Initiate Public Involvement and Scoping

The Service recognizes that effective and responsive conservation begins with community involvement. During this step, the planning team notifies the public that the Service is developing a CCP for the refuge and seeks public involvement in the planning process. CCP development provides opportunities for state agencies, refuge neighbors, visitors, partners, and the public to be involved, and to gain a clear understanding of the reasons for refuge management actions. Through this planning process, we expect to develop the most environmentally appropriate CCP possible that addresses key issues and public points of interest.

From these various sources of information, we developed a list of points of interest, challenges, opportunities, or any other item requiring a management decision.

We announced the initiation of the Conte Refuge CCP/EIS and a public scoping and comment period through a *Federal Register* notice of intent on October 11, 2006. During the public and partner scoping period we used the following techniques to ensure we reached out to a wide variety of stakeholders and obtained all of the points of interest, challenges, and opportunities identified by the public, our conservation partners, and other Service program staff:

- An “issues workbook” which asked recipients questions about their interests and concerns related to the refuge.
- Public scoping meetings throughout the watershed (at these meetings, we explained the planning process and gathered comments. We held 9 meeting in the fall of 2006 and then another 12 in the winter of 2007 to 2008).
- CCP planning team meetings with state representatives and invited guest experts to share information.
- Meetings sponsored by the Friends of Conte.
- Meetings to coordinate with other Service programs and other Federal and state agencies.

Step C: Review Vision Statement and Goals, and Determine Significant Issues

- Conversations between staff and individuals or groups.

Based on comments we received during the public and partner scoping period, we revised our vision statement and goals (see chapter 1). We also developed a list of key issues, concerns, and opportunities to respond to in the plan based on both our internal and public scoping periods, and updated as we proceeded through the planning process. Due to the length of the narrative describing those issues, concerns, and opportunities, they are presented under a separate subheading below.

Step D: Develop and Analyze Alternatives, Including the Proposed Action

Following a review of the issues generated under steps B and C, we refined our range of proposed alternatives. We then proceeded to develop them fully in the form of objectives and strategies, and assessed the impacts that might be expected with their implementation. In this final CCP/EIS, we describe and analyze four alternatives in chapter 4 and their anticipated impacts in chapter 5. We have identified alternative C as our proposed action and the Service-preferred alternative.

Step E: Prepare Draft Plan and NEPA Document for Public Review

With the release of the draft CCP/EIS, we completed Step E. The draft CCP/EIS was available for 90 days of public review and comment. We announced the release of the draft CCP/EIS in the *Federal Register*, through news releases on local media, and in a newsletter sent to our CCP project mailing list. We held 14 public information meetings and 4 public hearings. During this comment period, we sought substantive comments on the draft document. We used these comments to help create the final CCP/EIS.

Step F: Prepare and Adopt Final Plan

The Service's Northeast Regional Director will select a CCP alternative based on:

- How well the alternative meets the Service and Refuge System missions.
- How well it achieves the refuge purposes.
- How well it complies with other legal mandates.
- How well it anticipates and responds to predicted impacts.
- Public and partner responses to the draft and final versions of the CCP/EIS.
- Whether the Service Director has approved a refuge expansion.

The alternative selected could be the preferred alternative C as described in this final CCP/EIS, the “no action” alternative, any of the other alternatives, or even a combination of actions from the four alternatives presented. The final decision will identify the desired combination of species protection, habitat management, public use and access, land protection, and administration for the refuge.

This final CCP includes appendix O, which is a summary of the comments received on the draft document and our response to them. This final CCP/EIS will go through another 30-day public review. After that review and consideration of the comments that were received, we will draft a ROD. The ROD identifies the Regional Director's final decision and describes their approval of the chosen alternative and the rationale for this decision. Their decision will be a reasoned judgment based on public and partner comments, evaluating the potential impacts, opportunities to achieve refuge purposes and goals, and contribute to the Refuge System mission. The ROD also certifies that we have met agency compliance requirements. The availability of the ROD will also be published in the *Federal Register* and a copy of the ROD and final CCP will be made available to interested parties and posted on our website.

Step G: Implement, Monitor, and Evaluate Plan

Once the ROD is signed and released, we can begin to implement the CCP. The final CCP will serve as the principal guiding document for management of the refuge for the following 15 years. As we implement the plan, we will monitor our success in achieving our refuge goals and objectives.

Step H: Review and Revise Plan

We will also review and revise the CCP at least every 15 years in accordance with the Refuge Improvement Act and Service planning policy (602 FW 3). Annual or other periodic reviews could lead to revisions prior to the required minimum 15-year update.

Issues, Concerns, and Opportunities

The Service defines an issue as “any unsettled matter requiring a management decision” (602 FW 1). Issues can include an “initiative, opportunity, resource management problem, threat to a resource, conflict in use, or a public concern.” Issues arise from many sources, including refuge staff, other Service programs, state agencies, public and local officials, other Federal agencies, Tribes, other partners, neighbors, user groups, individuals with an interest in the refuge, or Congress. One of the distinctions among the proposed management alternatives is how each addresses issues, concerns, and opportunities.

We define three categories of issues, concerns, and opportunities.

- **Issues, concerns, and opportunities outside the scope of this final CCP/EIS analysis.** These are issues, concerns, and opportunities whose resolution falls outside the scope of this CCP/EIS, or are outside the jurisdiction or authority of the Service. Although we discuss them briefly in this chapter, we do not address them further in this final CCP/EIS.
- **Issues, concerns, and opportunities not needing alternative management options.** These are issues, concerns, and opportunities that deserve management attention; however, there is often only one reasonable solution to the issues. Due to this, we propose to resolve them similarly across all of the alternatives. These issues are dealt with in chapter 4 as “Management Actions Common to all Alternatives.” We only list them in this chapter, but direct the reader for a more detailed discussion in chapter 4.
- **Issues, concerns, and opportunities evaluated under alternative management options.** These are issues, concerns, and opportunities needing management attention that may have more than one viable solution, and their resolution falls within the jurisdiction and authority of the Service. Typically, these issues generated a wide range of opinions on how to resolve them. The range of options for addressing them helped form the basis for developing and comparing objectives and strategies among the four proposed management alternatives detailed in chapter 4.

Specific issues, concerns, and opportunities that were raised during the planning process are presented under each category below.

Issues, Concerns, and Opportunities Outside the Scope of This Final CCP/EIS Analysis

a. Why doesn't the refuge take a lead role in managing dams in the watershed to help restore the natural hydrology to the Connecticut River?

Some people felt that refuge staff should play a more active role in controlling or influencing appropriate water flows in the river to benefit wildlife, fish, and native plant communities in the mainstem Connecticut River and its main tributaries. We heard concerns that water levels in the river and its tributaries are sometimes too high and that dam releases were often poorly timed. This can negatively affect habitat for nesting and migrating birds, migratory fish, and other aquatic species. Others expressed concern that low water levels during the summer exposed mudflats and affected shoreline access to open water for recreation, including wildlife observation and fishing.

While a more natural annual flow regime would best contribute to the refuge's legislated purposes, Refuge staff do not have the jurisdiction to control dams and river flows. There are over a dozen dams spanning the Connecticut River mainstem and over a thousand dams on its tributaries. These are depicted on map 2.2. The flow regimes in the Connecticut River result primarily from management at federally permitted hydroelectric dams, USACE flood control projects, and a myriad of smaller dams on the river's tributaries that are state or privately owned and operated. These dams and projects are under the jurisdiction of the Federal Energy Regulatory Commission (FERC) (FERC 2012; <http://www.ferc.gov/industries/hydropower/gen-info.asp>; accessed August 2016) and must be operated under the terms and provisions of their FERC license. Map 2.2 also portrays those dams that are FERC-licensed on the Connecticut River's mainstem. As of June 2013, there are five FERC dams that are currently under review for their upcoming 2018 relicensing. Those dams are: the Turners Falls, Northfield Mountain Pumped Storage, Vernon, Bellows Falls, and Wilder projects. The 5-year review process began in early October 2012. The projects collectively impact more than 175 miles of the river, which supports federally listed aquatic species, including dwarf wedgemussel and shortnose sturgeon, and other sea-run fish, including American eel, American shad, and river herring.

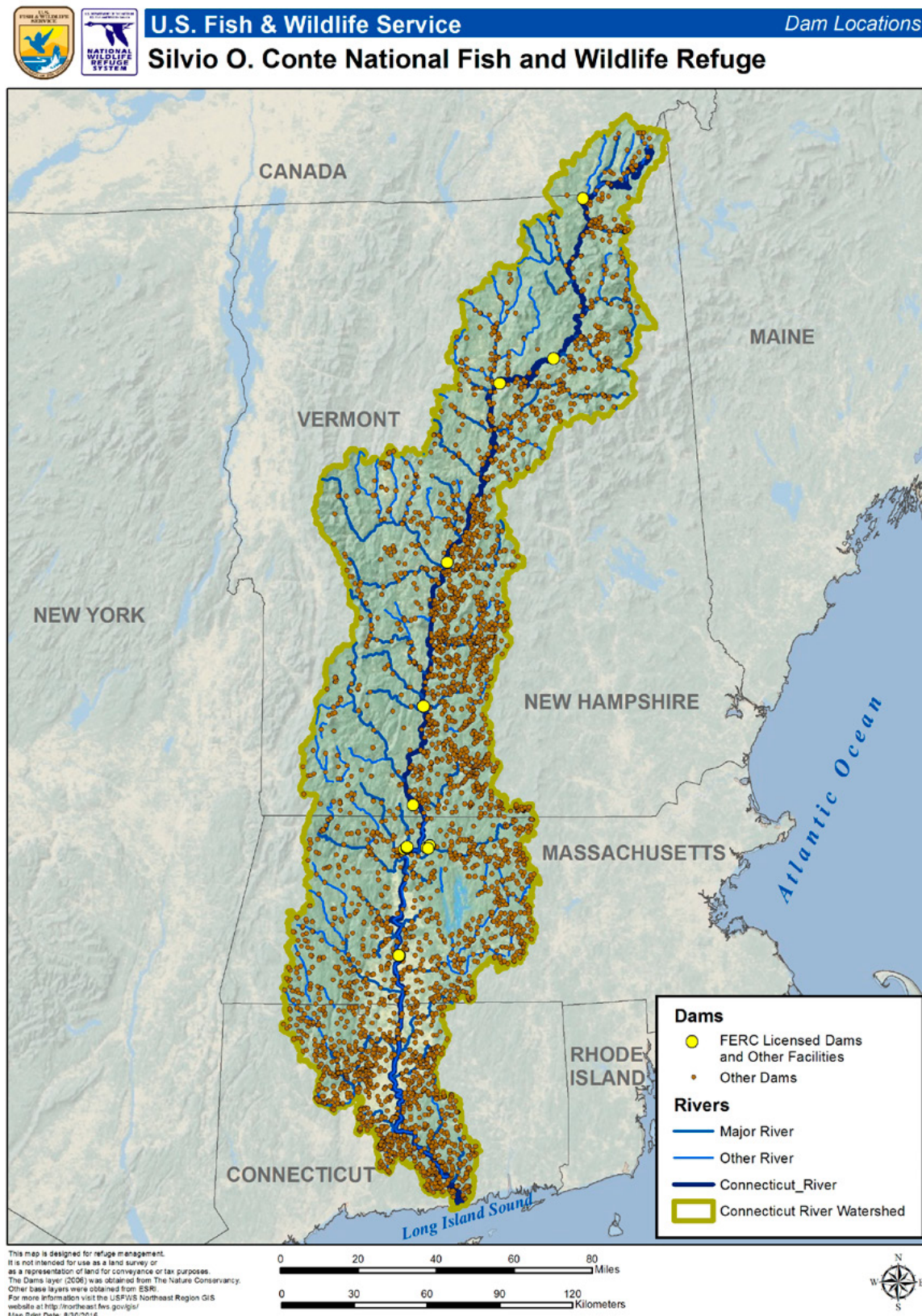
The Service's New England Field Office in Concord, New Hampshire, part of the Ecological Services program, has responsibility for reviewing and advocating for Federal trust resources during FERC license renewals on the Connecticut River. The Field Office is currently involved in the review of the five dams noted above. Refuge staff provide the Field Office staff with relevant refuge resource information during the permit renewal process, and the welfare of the refuge and its goals play heavily in permit review proceedings. Another Service program, the Connecticut River Coordinator's Office (CRCO), also provides detailed resource information to the Field Office during the license review process. The CRCO is dedicated to working with partners throughout the watershed to restore migratory fish, by identifying and addressing obstructions to fish passage, dealing with issues and threats related to hydropower relicensing and development of wetlands, and conserving and restoring the quantity and quality of aquatic and riparian habitat. Their mission is "to work with partners to restore migratory fish and their habitats in the Connecticut River Basin" (USFWS 2013d; <http://www.fws.gov/r5crc/index.html>; accessed August 2016).

Once FERC has issued a license, any party wanting to change the terms must petition FERC to reopen the license. The procedure for doing so requires the petitioner to supply a detailed justification of the proposed change to the license sufficient to convince FERC that its analysis in issuing the license is no longer accurate, and that a change in the license terms is necessary. The licensee has a right to a full administrative process under FERC regulations before its license can be changed by that agency. Although such challenges fall outside the scope of this CCP, the Service's New England Field Office is able to give a voice to fish and wildlife concerns during the FERC license review.

The USACE operates dams on the mainstem primarily for flood control; however, the New England District of the Army Corps has constructed dams and reservoirs, hurricane protection barriers, and local protection projects to reduce flood risk, improve and maintain navigation, and protect streambanks and shorelines throughout the watershed (USACE 2013; <http://www.nae.usace.army.mil/About.aspx>; accessed August 2016). Some of the dams they constructed are owned and operated by the Army Corps, while others are operated and maintained by respective states.

Assuming responsibility for Army Corps projects, or attempting to control state and private dam operations elsewhere in the watershed, is also outside the scope and purpose of this final CCP/EIS, which is to provide guidance to refuge

Map 2.2. Locations of Dams Throughout the Connecticut River Watershed



* Please use this map as an approximation of dam locations. The data sources may differ in terms of detail and definitions by State.

staff in the form of goals, and detailed objectives and strategies, for managing refuge lands and programs. This plan's purpose does not provide guidance to the Service concerning matters within the jurisdiction or authority of different Federal or state agencies.

b. Why doesn't the refuge lead efforts to control and reduce water pollution in the Connecticut River and its tributaries?

Some people want us to be more actively and directly engaged in managing water pollution in the watershed. Concerns were expressed about the human health threat, as well as the threat to critical habitat for fish and other aquatic species, and other wildlife, that are sustained by the river. People reminded us that it was only in the 1950s when the river was referred to as "America's best landscaped sewer." Initially driven by the specific threat from water pollution, the CRWC was formed in 1952 (CRWC 2013; <http://www.criver.org/>; accessed August 2016). Their website summarizes many of the concerns we heard, and lists many of the perceived sources of water pollution, including returning insufficiently cooled water and dumping pollutants into the river, utility and waste storage areas in riparian areas, non-point source pollution from farms and other industrial operations in floodplains, poorly-stabilized river and stream banks adding silt, and construction of impermeable surfaces and its resulting runoff.

The four individual states in the watershed, under authority from the EPA, are responsible for implementing and enforcing provisions of the Clean Water Act of 1972. In the years following passage of this act, the EPA, states, and Tribal governments focused primarily on "pipe discharge" or point source pollution. Point source pollution often includes toxic chemicals, sewage effluent, and thermal "heated" waters from utility power generation. Non-point source pollution from surface runoff has taken on a more prominent role over the past several decades, and includes runoff of agricultural fertilizers and chemicals, petroleum chemicals and salts from roadways, and soil runoff leading to high sediment loads and excessive turbidity.

Refuge staff do not have a specific role or authority in enforcing water quality regulations; however, we could become involved in the event that any source of water pollution was directly impacting refuge lands or priority Federal trust resources (e.g., federally listed endangered and threatened species). Refuge System policy on maintaining and restoring biological integrity, diversity, and environmental health (601 FW 3) offers sequential steps a refuge manager is to follow when refuge lands and wildlife may be impacted by activities originating off refuge property. If a situation were to occur, the refuge manager would work in concert with the Service's New England Field Office to help address the matter. While we will remain vigilant to threats of water pollution and the degradation of water quality, and report those that we observe, the process of issuing violations and seeking remedial actions falls outside the jurisdiction of refuge staff and the scope and purpose of this CCP, which, as noted above, is to provide goals, objectives, and strategies for managing refuge lands and programs.

c. Why doesn't the refuge provide leadership in controlling overdevelopment and the loss of open space in the watershed?

Many people expressed concern about the effects of land use developments that are reducing open space and adversely impacting natural resources in the watershed. This is a more prominent issue in the watershed in Massachusetts and Connecticut where development and increases in population growth and other demographic shifts have been more rapid, but there are areas in New Hampshire and Vermont where concerns are similar.

Refuge staff do not have jurisdiction or authority over state or local planning, or zoning and land use permitting, including private developments adjacent to refuge lands. If a land use in proximity to a refuge causes concern, the refuge manager would work in concert with the Service's New England Field Office to provide fish and wildlife information to regulating and permitting agencies. Similar to our response to water pollution, we will remain vigilant to development concerns that threaten Federal trust resources and we will report our concerns, but the process of deciding on what land uses to allow falls outside the jurisdiction of refuge staff and the scope and purpose of this CCP.



Canadian bunchberry

While we note our limited ability to directly affect population growth, and influence state and local planning and zoning ordinances that allow land development, we indirectly affect the level of development through our refuge land acquisition program, and working with our conservation partners to assist them in conserving lands of high natural resource value. Through refuge and partner-led land protection programs, thousands of acres in the watershed are no longer available for development. Chapter 4 describes how each of the alternatives would address land protection on the refuge in the future, and how we would work in concert with our partners to achieve their land protection goals. Also, it should be noted that many local governments are employing smart growth measures that help minimize growth impacts. For example, in western Massachusetts, the Pioneer Valley Planning Commission (PVPC 2001), which promotes smart growth, has been the designated regional planning body encompassing 43 cities and towns responsible for increasing communication, cooperation, and coordination among all levels of government, ultimately to benefit the Pioneer Valley region and to improve its residents quality of life.

d. Why doesn't the refuge lead the restoration of endangered and threatened species, especially reintroducing species such as the gray wolf and Canada lynx?

Some people think refuge staff should lead the effort to restore endangered and threatened species on refuge lands, with an emphasis on large predators, such as the gray wolf and Canada lynx, in order to reestablish populations in the Northeast. They expressed the opinion that the refuge should reestablish large predators to help balance the natural levels of species diversity and abundance. Others expressed concern with reestablishing, reintroducing, or introducing listed species, especially large predators. Their range of concerns included risks to humans, pets, or livestock from large predators; to economic impacts on private lands should listed species become established.

The Service's lead for issues and programs relating to federally listed species is the Ecological Services program. They develop species reintroduction and recovery plans, which considers those species' threats and needs across their entire ranges, after consulting with many technical experts. The Ecological Services program also establishes and leads species recovery teams. For the gray wolf and Canada lynx, in particular, the Connecticut River watershed comprises only a small portion of their ranges. Any proposed reintroduction effort would be considered a major Federal action and would require separate NEPA analysis and public and partner engagement.

In summary, all actions related to reintroductions, introductions, or reestablishing federally listed species would be led by our Ecological Services program through an administrative process that includes consultations with state wildlife agencies, technical experts, and the public following the NEPA process. It is a process outside the scope of this final CCP/EIS which is intended to direct refuge staff and resource management programs. That being said, we assume refuge lands will play a big role in implementing species recovery plans

once they are complete and under consultation with our Ecological Service's program and respective recovery teams. Chapter 4 presents how the alternatives propose to work with established recovery teams and plans on refuge lands and in partnership with others.

e. Why doesn't the refuge take a more direct role regarding woody biomass and wind energy developments and their impacts to watershed forests and wildlife?

Woody biomass and wind driven electrical generation is being advanced in many states as a viable source of alternative energy. Some people expressed concern with these sources because of impacts on natural resources. Concerns we heard about woody biomass involved the potential pressure to harvest large quantities of vegetation, and potentially impacting a wider range of tree species and size classes that were not traditionally harvested by the forest products industry. Those expressing concerns with wind energy primarily referenced reports of wildlife mortality from the turbine blades, and the disturbance to wildlife from construction and maintenance activities and associated noise pollution.

The four states in the watershed are signatories to the Regional Greenhouse Gas Initiative (RGGI). It is a cooperative effort by all six New England states, and Delaware, Maryland, and New York to use alternative energy and limit greenhouse gas emissions. The signatory states have agreed to cap CO₂ emissions from the power sector, and require a 2.5 percent cut in emissions each year from 2015 to 2020. This commitment, along with other respective state initiatives, has resulted in a concerted effort by the states to pursue alternative energy sources (RGGI 2013; <http://www.rggi.org/>; accessed August 2016).

As noted previously, the Service has no jurisdiction or authority to dictate activities on state or private lands, unless federally listed species are affected. The Service's Ecological Services program is the lead division within our agency to address any issues related to energy developments on other ownerships, including reviewing proposals for new plans or permits. In March 2012, the Service published land-based wind energy guidelines (USFWS 2012b; https://www.fws.gov/ecological-services/es-library/pdfs/WEG_final.pdf; accessed August 2016) to provide wind developers with the necessary considerations for avoiding and minimizing wildlife impacts.

Conte Refuge staff would work in concert with the Service's New England Ecological Services Field Office to help provide technical information in support of their review of any projects in the watershed. However, the request to have refuge staff take a more direct role in addressing woody biomass and wind power proposed on other ownerships is outside the scope and purpose of this final CCP/EIS that is intended to direct refuge staff and resource management programs.

f. Why doesn't the refuge take a more direct role in addressing safety concerns related to certain types of recreational uses on the Connecticut River?

Some people expressed concerns with certain water-based activities on the river and how they were occurring in an unsafe manner. Specifically, we heard about boating at high speeds, waterskiing, the use of personal watercraft, kayaking, canoeing, tubing, and generally, the mixing of these activities in certain areas.

Refuge staff have limited jurisdiction for regulating and enforcing watercraft activities on the Connecticut River. State and other Federal law enforcement agencies have the lead in enforcing navigation and recreational use of the river. The U.S. Coast Guard also patrols Federal waters and enforces Federal laws, which in this watershed is along Long Island Sound. Refuge law enforcement

officers may become involved on the river in cooperation with other lead enforcement agencies. Generally, municipal police officers, state conservation police officers, town marine officers, and certified harbor masters enforce state boating regulations, which typically include boating speed, restricted zones, and safety requirements.

Given our limited jurisdiction to control activities in state waters, we regard this issue as outside the scope of this final CCP/EIS that is intended to direct refuge staff and resource management programs. However, refuge staff will continue to work in close cooperation with agencies that regulate water-based activities and support activities that are of mutual concern.

g. Can the Service reduce the impacts from refuge land acquisition on adjacent land property values and tax burdens?

We heard concern expressed by landowners adjacent to the refuge that their property values have been affected, thus affecting their property taxes. Private land is assessed, and property values are determined for tax purposes, by either state, county, or local taxing authorities. The Service has no direct influence or control over tax rates or determining property values, nor can we control the desirability and interest of others to purchase land adjacent to the refuge, which affects market values. That being said, we acknowledge that landowners may see their property values rise from owning property next to the refuge. A 2002 report (Boyle et al. 2002) shows that land and property values are typically higher next to a national wildlife refuge, when holding other factors constant. The report states “The significant premium people pay to purchase properties near refuges clearly indicates that refuges provide desirable environmental amenities and permanent open space to local residents.” We also recognize that as property value increases, it is likely that taxes may increase. While this may result in increased revenue for the local taxing authority, it also increases the tax burden for the individual private landowners.

Establishing private property values and establishing tax rates is not within the jurisdiction of the Service and thus, we determine that this issue is outside the scope and purpose of this final CCP/EIS. Indirectly, however, the refuge influences this issue through its land acquisition program. Chapter 4 describes how each of the alternatives would address land protection on the refuge in the future.

Issues, Concerns, and Opportunities Not Needing Alternative Management Options

The following is a list of issues that will be addressed similarly among the alternatives and are covered in chapter 4 under “Actions Common to All Alternatives”:

- How will the existing camp lease agreements, under special use permit at the Nulhegan Basin Division, be affected by the CCP?
- How will refuge staff protect against and manage wildfires? Will fire be used as a habitat management tool?
- Will existing offices, facilities, and other infrastructure remain open?
- Will Refuge Revenue Sharing payments continue?
- Is the Silvio O. Conte Refuge Advisory Council, established in the 1995 FEIS, officially disbanded?
- Will the refuge preserve and protect cultural resources on refuge lands?
- Will the refuge continue to support youth programs, such as the Youth Conservation Corps?

Issues, Concerns, and Opportunities Evaluated Under Alternative Management Options

These are issues, concerns, and opportunities that may be addressed differently between the four alternatives. Chapter 4 describes the four alternatives in more detail, and appendix A provides specific management direction for alternative C, the Service-preferred alternative. For the discussion below, we grouped this list of issues, concerns, and opportunities into the following categories:

- (a) Landscape-level Land Conservation and Resource Protection
- (b) Habitat and Species Management
- (c) Public Uses
- (d) Socioeconomic Factors
- (e) Community Relations and Partnerships
- (f) Administrative Resources

Landscape-level Land Conservation and Resource Protection

- (1) What future role should the refuge play in land protection in the watershed; should the Service pursue additional refuge land acquisition to protect Federal trust resources, or minimize that focus and support the land protection work of our conservation partners? Or, is there some combination of the two strategies?**

This is the issue that garnered the most public interest due to the wide variety of opinions we heard about the need for, and extent of, additional land protection in the watershed, including expanding the refuge's approved acquisition boundary.

Of particular interest to us is the wide variety of opinions on whether the refuge should continue to expand, or whether future land protection should be led by the states and conservation partners. Some people expressed concern that Federal ownership will result in a greatly diminished local voice in how those lands are managed and used, and they expect the result will be additional restrictions on non-priority public uses, which they view as traditional uses. Others believe the Service will not be responsive to local concerns, and that the lands will no longer be subject to local influences. Many people specifically fear a significant loss of commercial timber harvest, taking agricultural lands out of production, and the resulting potential impacts on the local economy. We heard other concerns about the loss in property taxes, because the Federal government does not pay property taxes. Some of those opposed to a refuge expansion did support state agencies, local governments, or non-governmental entities taking the lead in land protection, with the Service playing only a supporting role.

On the other hand, there were many supporters of land conservation and protection in the watershed, with some indicating it should happen by "whatever means necessary" in order to be able to act quickly in response to development threats. Others specifically encouraged the Service to continue an active land acquisition program for the refuge. Those who support all available means expressed concern with the pace of development, including the selling of landholdings and subdividing them into smaller tracts at a rapid rate. Some people expressed the opinion that ownership by the Federal government, whether in fee title or conservation easement, was the only way to guarantee the permanent conservation and management of lands to support Federal trust resources. They also noted that Federal ownership would increase opportunities for permanent public access and recreation in areas either not currently open or not guaranteed to be open long term. Virtually everyone in support of land protection recognized the critical role of the land conservation partnership that exists and the value of the conserved lands network, and encouraged that we continue to be an active partner.

In chapter 4 under goal 1, we present the range of options for refuge land acquisition by alternative. We also cover this topic in more detail in appendix C, the Land Protection Plan for the Service-preferred alternative. The alternatives also present different levels of support for our partners' land conservation efforts,

and for a private lands coordination program. This is also covered in chapter 4 under goal 1.

(2) How should the refuge's future land acquisition efforts be divided between fee-title acquisition and conservation easement? Which method is best to complement our partners' efforts, meet the needs of landowners, and support local communities?

For those supporting an active refuge acquisition program, there were differences of opinion on whether the Service should acquire lands from willing sellers in fee or conservation easement. For some, their major concern was halting development in sensitive areas, so they were recommending Federal acquisition of development rights via a conservation easement. This acquisition method was favored by several commenters since it would have less impact on property tax revenues. Some of these individuals favoring easements specifically mentioned they supported the Service acquiring other rights, including public access for recreation.

Others supported the Service pursuing fee-title acquisition as a means to ensure permanent protection for Federal trust resources, and to secure permanent access for wildlife-dependent recreation, such as hunting and fishing.

The alternatives vary in the amount and distribution of land proposed for refuge acquisition. The alternatives also vary in the amount of acres proposed for acquisition in fee and easement. In practice, we often need to defer to the preference of each individual landowner, so the actual ratio of fee to easement is difficult to predict with certainty. We can only convey our proposed intent at this time. In chapter 4 under goal 4 we present the refuge land acquisition proposals by alternative. We primarily cover the topic of acquisition method in appendix C, the land protection plan for the Service-preferred alternative.

(3) Should refuge staff focus more effort on outreach, private lands coordination, and/or demonstration of practices to influence management on other ownerships and potentially affect more acres in the watershed?

During public scoping, we heard people express concern with human-caused impacts such as overdevelopment, the loss of open space, pollution, habitat loss and degradation, and the negative impacts from high-impact recreation. Some felt that if landowners understood how they are contributing to these impacts that they would become better land stewards. There were particular areas in the watershed, such as the urban corridor from Hartford to Long Island Sound, where people thought education and outreach programs would be most beneficial. Others felt that there was a general need for outreach and education programs throughout the watershed.

Some people noted that the original 1995 FEIS establishing Conte Refuge had a major emphasis on private lands coordination and they recommended that refuge staff expand this program. A few suggested that a Partners for Fish and Wildlife (Partners) program position be added to the refuge staff to increase our ability to provide technical assistance to private landowners, town officials, and land trusts interested in incorporating wildlife habitat restoration and management. On the other hand, state representatives noted that their agencies already had a private lands program and preferred that refuge staff focus on helping to find alternative funding sources to implement projects.

In contrast, there were some who thought that refuge staff should concentrate on managing refuge lands, given the limited staffing and funding available. These commenters felt that the states or nongovernmental organization had adequate programs to assist on other ownerships in the watershed.

Woodchuck



Andrew MacLachlan

The alternatives differ in the refuge's level of commitment to a private lands program, and offer differences in what that program's priorities should be. We primarily cover this topic in chapter 4.

(4) What are the impacts from Service acquisition on the local economy from loss of property taxes?

Many were concerned about the potential impacts of Federal ownership on the local property tax base. The Federal government is not required to pay property taxes. However, the Service has a program specifically authorized by the Refuge Revenue Sharing Act of 1935, as amended, under which revenues earned on refuges are collected and then disbursed to local taxing authorities where refuge land is located. These payments are intended to help offset property tax losses in communities due to land acquisition and property ownership by the Service; however, they may be less than the historical property tax levels. This can be an important issue for small towns if payments are reduced under Service ownership, but may be insignificant in towns with larger, more diverse tax bases.

Congress sets the revenue sharing payment rate each year. The maximum rate is approximately three-fourths of one percent of the market value of the property. The Service has no control over what rate Congress sets. Although historically revenue sharing exceeded the corresponding tax revenues generated from private lands, payments in recent years have fallen considerably.

Among our four alternatives, the impact to taxing districts will vary depending on the proposed land acquisition under each alternative. Our refuge expansion proposal for each alternative is detailed in chapter 4 under goal 4.

(5) What is the refuge's role in addressing climate change and its potential impacts on fish and wildlife in the watershed? What is the refuge's role in ensuring that Federal trust resources are conserved for future generations in the face of climate change?

We heard a mix of concern about climate change and its potential effect on plants, fish, and wildlife in the watershed. Some respondents question whether evidence of climate-induced changes is conclusive. Others agree with predictions that climate change is occurring and recommended that immediate action be taken. Many recommend that we manage refuge lands to minimize predicted impacts and use our technical outreach and education programs to reduce the impacts of climate change on other ownerships in the watershed.

The Service officially recognizes that climate change is occurring based on firm and growing science on the validity of predictions, noting that much of that science deals specifically with fish and wildlife and their ecosystems. The Secretary of the Interior issued Secretarial Order 3289 on September 14, 2009, designed to enable the Department to apply scientific tools to increase understanding of climate change and to coordinate an effective response to its impacts on Tribes and on the land, water, ocean, fish and wildlife, and cultural heritage resources that the Department manages.

Climate change and its corresponding effects on species migrations or range distributions, extreme shifts in temperature and precipitation, and invasive species introductions may potentially pose dramatic threats and alterations to the habitats encompassed within the refuge. The ability to adapt or address these ever-changing concerns requires a comprehensive understanding of the refuge's landscape context, individual habitats, species utilization, and their resilience. Adaptive land management in response to climate change is an emerging science.

All of the alternatives would manage wildlife and habitats under an adaptive management framework in response to climate change, and all would increase biological monitoring and inventories. These actions are critically important as strategies to effectively respond to the uncertainty of future climate change effects. The alternatives differ, however, in the extent to which they take other specific actions to reduce predicted climate change impacts, including actions recommended to land managers by The Wildlife Society in Wildlife Society Technical Review 04-2 (Inkley 2004): reduce environmental stressors, manage for self-sustaining populations of fish and wildlife, and ensure widespread habitat availability through land protection and conservation. We primarily cover this topic in chapter 4 under goals 1 and 4.

(6) Are there existing special area designations within the watershed that should be enhanced with refuge support, or are there new ones that should be considered, including on refuge lands? The list of special designation areas includes: Wilderness, Wild and Scenic Rivers, National Natural Landmarks, Important Bird Areas, Convention on Wetlands of International Importance Sites (Ramsar sites), National Historic Sites, National Scenic Trails, and Research Natural Areas.

Some people expressed concern with any actions proposed in the CCP that would impact, or detract from, the character or values used in establishing existing special designation areas in the watershed. Other people expressed interest with establishing new special designation areas, both on and off refuge lands. For some, however, there is concern with special designation areas and their impact on opportunities for historic and traditional uses of the lands (e.g., forestry, farming, and recreation).

Service planning policy (602 FW 3) requires that we evaluate the potential for special designation areas on refuge lands. The results of our Wilderness

Review and Wild and Scenic Rivers Inventory are included as appendix E and F, respectively.

All of the alternatives would maintain the values and character of existing special designation areas. Also common to the alternatives is that we would support special designation areas on other ownerships. The alternatives differ, however, in enhancing or expanding existing special areas and recommending new areas on refuge lands. We primarily cover this topic in chapter 4 under goals 1 and 3.

Habitat and Species Management

(1) Which species and habitats should be management priorities on refuge lands? What degree of active versus passive habitat management should be employed on refuge lands? How can refuge habitat management complement conditions in surrounding landscapes?

The comments we received yielded a range of recommendations for what species and habitats to prioritize for management on refuge lands. There were people who wanted us to focus management on particular priority species, namely our Federal trust species. Others recommended we concentrate on protecting and managing large forest blocks to benefit forest-dependent species, including those that require early successional forest habitat, such as American woodcock. Some of these same commenters would like to see a broader range of size classes in our forests. Other people recommended we focus on grassland and shrubland habitats that are becoming increasingly rare in the region, and which require an annual management commitment. Yet other people wanted us to focus only on the suite of species and habitats specifically mentioned in the Conte Refuge legislation and refuge purposes. Those include federally listed species, migratory birds, diadromous fish and other aquatic species, and wetlands. We also heard from people who want our management to emphasize game species valued by hunters and anglers. Others recommended we focus on rare species and species of “greatest conservation need” identified in each state’s wildlife action plan.

Others recommended we focus more on fish and other aquatic species in our management because the Conte Act legislation identifies these organisms as a priority. Specific concerns were expressed not only for migratory fish such as Atlantic salmon and American shad, but for their habitats, notably riparian areas, floodplains, and wetlands. We also heard from people concerned about fish passage and impairment of spawning habitat along the mainstem and its tributaries because of more than 1,000 dams and thousands of culverts, many of which block access to historic stream reaches. Water quality was also raised as an issue. Some people felt that we should provide technical support and resources to landowners with riparian and floodplain property and be more active in advising in fish passage matters. It was also suggested that we should be a leader in monitoring the effects of recreational activities on aquatic and riparian resources.

With regard to habitat management for any of the above noted species, there are some who support active management using the wide range of techniques (e.g., prescribed burning, mowing, herbicides, silviculture, etc.), while others recommend that we primarily let “nature take its course.”

This issue is one of the most complex we are dealing with in the final CCP/EIS and is possibly the one that most distinguishes the alternatives. The alternatives differ in the species and habitats identified as a priority for management, and the level of active management that would be used to support those priorities. The alternatives also represent different levels of support for influencing private lands management to benefit wildlife. Finally, this issue is also affected by choices made concerning a refuge expansion, which also differs among alternatives.

We primarily cover this topic under our discussion for goal 1 in chapter 4 and in the matrix at the end of chapter 4. Appendix A provides more detailed information on the priority species and habitats we identified for alternative C, the Service-preferred alternative. In appendix A, for each proposed CFA, we provide lists of the priority species and habitats and describe our proposed habitat and species management actions. Appendix B describes the process we completed to identify what species and habitats were priorities for the refuge under alternative C.

(2) What emphasis should the refuge place on managing for ecosystem diversity and resilience versus managing for targeted species?

Many commenters referenced Service policy to manage for biological integrity, diversity, and environmental health (601 FW 3), suggesting this should drive our management priorities rather than management for specific species. For some, managing for ecosystem diversity and resilience would best position refuge lands to minimize the anticipated impacts of climate change. We heard the recommendation that we should strive to reduce or eliminate environmental stressors (e.g., pollution, land use developments, ozone depletion, invasive and exotic species) on refuge lands; and in the watershed, promote diversity, health, and resilience. Suggestions were made to manage refuge lands, and work with partners on their lands, to reduce the risk of catastrophic events; manage for self-sustaining wildlife populations; and look for opportunities to ensure corridors and habitat connections are available for wildlife and plant communities. On the other hand, there were other people who felt that refuge lands should be managed more consistent with refuge purposes in support of certain species. Comments related to which species and habitats are recommended for refuge management were discussed under issue #7 above.

Eastern bluebird



Bill Thompson

This is a complex issue, both in understanding how diversity and resiliency relate to refuge management, and what we could effectively do to address it. The alternatives offer a range in management focus; from one that emphasizes species and habitat to one that emphasizes natural processes and proposing management only when there is threat of, or in response to, a catastrophic event. The range of land protection proposals among the alternatives reflects our potential ability to respond to recommendations on reducing environmental stressors. Further, the alternatives represent different levels of support for influencing private lands management. We primarily cover this topic in chapter 4 under goals 1 and 4.

(3) How can the refuge effectively and economically control invasive plants which displace native plants and negatively affect refuge habitats, and habitats throughout the Connecticut River watershed? Which invasive plant species should be the highest priority to control?

This issue relates to the amount of resources the refuge should dedicate to the control and management of invasive, exotic plants, and where that work should occur. Virtually everyone we spoke with recognized the impact these plants have on native plant diversity, agricultural lands, and residential landscaping.

However, there was a mix of opinion on whether the limited resources available to the refuge should focus on refuge lands only, or continue to be used, in part, to assist other landowners (see chapter 3 for details on our current program). Also, some people commented that they would like to see a prioritization of invasive plant species to control.

Most people recognize the value of our participation in invasive species management, but recommended we decide on the most appropriate and effective role going into the future. As such, the alternatives vary in the amount of resources, timing, and priority dedicated to invasive species control on and off refuge lands. We primarily cover this topic in chapter 4 under “Actions Common to All Alternatives” and under goal 4.

(4) What effort should be made by the refuge to manage for federally listed threatened, endangered, and candidate species?

We heard from people who thought this should be the singular focus of the refuge, noting its prominence in the Conte Refuge Act and refuge purposes. Others viewed it as one of several top priorities for refuge management. Some expressed concerns that management for listed species is too restrictive and would impact opportunities to benefit a broader suite of wildlife and potentially impact recreational and other uses of refuge lands.

The Service has a statutory responsibility to protect and conserve federally listed species. Common to all alternatives, we will ensure our management does not impact known populations of listed species and we will continue to work closely with respective species’ recovery teams to stay current with the latest information. That being said, the alternatives differ in the amount of active management to enhance or expand habitats for listed species. The alternatives also represent different levels of support for influencing private lands management to benefit listed species. Finally, this issue is also affected by choices made concerning a refuge expansion, which also differs among alternatives. We primarily cover this topic in chapter 4 under goals 1 and 4.

(5) How will the refuge manage furbearer populations on refuge lands?

We use the term furbearer to identify species traditionally hunted or trapped for their fur, including carnivores and rodents. Beaver, bobcat, coyote, fisher, fox, mink, and muskrat are common furbearers on refuge lands. This issue is complex and controversial. Most of the controversy surrounds the use of trapping. We heard from people who strenuously object to trapping as a means to manage furbearer populations. Some of those opposed do so because they believe it is inhumane, cruel, and unethical. Others oppose trapping because they feel it is unnecessary and ineffective in controlling furbearer populations.

We heard proponents of regulated trapping say they believe it provides an important, effective method for managing furbearer populations, is a sustainable use of wildlife resources, and allows for a rural, self-sufficient, subsistence lifestyle of historical significance. Supporters of trapping contend that harvesting some furbearers does not threaten the continued survival of their populations, and compare it to our hunting and fishing programs.

The use of trapping as a tool to protect human health and safety, and to protect infrastructure, is an action common to all alternatives. This typically occurs in a specific area and on a very limited basis. For example, trappers may remove specific beavers whose activities threaten to flood critical refuge roads. There are years when we do not trap for this purpose. Trapping for safety and infrastructure protection is conducted by refuge staff or other Federal agency, by state-licensed trappers under contract, or by state-licensed trappers under

a special use permit. The alternatives do differ, however, in whether or not they provide a more extensive program designed to minimize the likelihood of future problems, as well as provide for a compatible, wildlife-dependent outdoor activity that has historical significance. We primarily cover this topic in chapter 4 under Actions Common to All Alternatives.

Public Uses

(1) How can we most effectively provide environmental education and interpretation to target audiences? What opportunities are available for environmental education partnerships?

We heard comments that environmental education and interpretation should be a higher priority for refuge staff. There were recommendations that we target special audiences in our education and interpretation programs; for example, audiences that can influence or solve conservation problems in the watershed (e.g., landowners, foresters, land trusts, recreational users). Others felt we should target kindergarten through 12th grade students and K-12 teachers. There was general agreement among people who commented on this issue that the existing visitor centers should be fully staffed and available to the public when people are most likely to visit. Some felt that establishing a greater presence for education in Connecticut is a high priority due to the challenges urbanization presents to the watershed. Many respondents believed that the top educational priority was the concept of how personal choices can affect ecosystem health. Other important education and interpretive topics that were suggested include resource stewardship, the value of biodiversity, and wildlife/habitat concepts. A number of educational tools were suggested, including field trips, workshops, mobile exhibits, articles published in local media, demonstration projects, and deploying an electronic media strategy.

The alternatives vary in the amount of resources, infrastructure, and priority attention dedicated to environmental education and interpretation programs, both on and off refuge lands. We primarily cover this topic in chapter 4 under goal 2.

(2) What is the appropriate mix and level of commitment for other priority public use programs (e.g., hunting, fishing, wildlife observation, and photography) on each of the refuge's divisions and units?

Generally, people were supportive of wildlife observation and photography on refuge lands. Concerns seemed to focus on where the uses occurred and what infrastructure was needed to support quality programs. Most people we heard from think hunting and fishing should be allowed; however, there were some people who felt these are not appropriate activities on a refuge. Some expressed concerns about how we will resolve differences when situations arise where priority uses conflict with each other. Some people wondered if we may allocate refuge resources disproportionately toward one use to the detriment of another. A few people feel public use is already too high and should be reduced, while others recommended that we should establish our capacity limits and manage accordingly.

The alternatives vary in access and opportunity for priority public uses, and the amount of resources, infrastructure, and priority attention dedicated to each. We primarily cover this topic in chapter 4 under goal 3.

(3) What visitor centers and contact facilities do we need, and where should they be located? How will we staff them to best meet our goal for effective outreach and quality visitor programs?

We heard from some people who expressed a particular interest in a greater refuge presence in Connecticut. They mentioned that the Conte Refuge Act authorized four refuge education centers, and this has been interpreted by some

that there would be one in each state in the watershed. The Hartford area was mentioned most as a preferred location in Connecticut, but other localities were also mentioned. Other people commented that existing visitor centers were not being run as they hoped. One respondent noted that the refuge's presence at the Montshire Museum of Science in Vermont had a very low profile. A similar comment was made about the Great Northwoods Visitor Center in New Hampshire. We heard from some other people that the Nulhegan Basin Division visitor contact facility should be open when people are most likely to visit, namely on holidays and weekends. One individual noted that the Great Falls Discovery Center in Massachusetts is nice but not oriented to older users.

There were other people who noted that there are numerous environmental centers already in each state, and the refuge should explore partnership opportunities rather than establishing any new centers. Others had concerns about partner-led facilities because the refuge is reliant on others to keep brochures and handouts available, and keep displays fresh and visible.

Common to all alternatives is maintaining a refuge presence in each of the currently established facilities. However, the alternatives differ in enhancing or expanding our presence in those facilities, and in pursuing new opportunities. We primarily cover this topic in chapter 4 under goals 2 and 4.

(4) What access will be allowed for public use activities on refuge lands? Specifically, what road and trail network is necessary to meet our goals and objectives? Are there redundant or unnecessary facilities that could be restored to natural conditions?

Having access to the refuge by way of parking lots, trails, boardwalks, boat launches, and other infrastructure is an important issue for many people who provided us comments. These access points and trails are used by visitors to engage in various recreational uses, as well as by refuge staff for management purposes.

Most access concerns we heard about related to the Nulhegan Basin and Pondicherry divisions because they are the largest refuge units with the most visitation. People expressed concern with the balance of opportunities for motorized versus nonmotorized access and the trail infrastructure for each. In particular, we heard from users wanting more trails at the Nulhegan Basin Division devoted to non-motorized use. There are people that consider the current levels of snowmobile and vehicular access too high for a national wildlife refuge. For those concerned about motorized access, they recommended we review our refuge road network and look for those roads that are redundant or not necessary for our programs, and restore them to native vegetation. Others supported motorized access and think that these uses are causing no environmental harm and an expansion should be considered.

A number of individuals have urged that the refuge provide canoe and kayak launches at Fort River, Mill River, Nulhegan Basin, and Pondicherry Divisions. In general, a common theme we heard from state agencies as well as the public, was to facilitate public access to the Connecticut River to the extent possible. The alternatives differ in enhancing or expanding our roads and trails network and providing access for a variety of refuge activities. We primarily cover this topic in chapter 4 under goal 3.

(5) Will the refuge allow non-priority public uses?

We heard a range of opinions and ideas on non-priority public uses. Some people stated that because refuge resources are so limited, we should not allow these activities at all and should stay focused on priority public uses. Others simply stated they do not believe these activities are appropriate for a national wildlife

refuge, and would question any that we found compatible. Additional opposition for allowing these uses ranged from those opposed to certain activities on ethical and moral grounds, to those concerned with visitor safety and impacts on wildlife and habitats.

Some people suggested new and different activities to allow, assuming they could be managed compatible with the refuge purposes. Uses that were suggested include horseback riding, all-terrain and other off-road vehicles, dog sledding, bicycling, and camping.

Of all the existing non-priority public uses allowed on the refuge, people voiced the most concern about snowmobile use, particularly at the Nulhegan Basin Division. Opponents argued that snowmobiling disrupts wildlife behavior, pollutes, conflicts with the six priority wildlife-dependent public uses, and diverts limited resources from other important refuge programs. Others expressed concern that it compromises visitor safety, that use is too high, or that motorized access should not be allowed on a national wildlife refuge. Other people in support of snowmobiling told us it is an important recreational pursuit that allows people to get out on the refuge during winter. Proponents felt that snowmobiling on the refuge enhanced opportunities for people of all capabilities to enjoy the scenery and a chance to see wildlife.

Common to all alternatives is adherence to Service policy (603 FW 2) that requires we evaluate all refuge uses for their appropriateness and compatibility with refuge purposes. For non-priority activities to be compatible and allowed, they would have to be managed so they do not conflict with refuge purposes, and the goals and objectives for biological and visitor services priorities in the final CCP, are consistent with public safety, and are manageable within the limitations of the refuge budget and available staff. If a priority and non-priority public use conflict, the priority public use will take precedence (603 FW 2). That being said, the alternatives differ in which non-priority public uses would be allowed. We primarily cover this topic in chapter 4 under goal 3.

Socioeconomic Factors

(1) How will the refuge's priorities integrate into the working landscape and local economies?

Concerns were expressed during scoping about how refuges affect local, regional, and national economies. The concern with property values and taxes was discussed above. Some individuals perceive the presence of a refuge as eliminating economic opportunities, because refuge lands limit or exclude commercial activities. A number of individuals questioned whether the refuge would be able to integrate wildlife conservation into the working landscape, where farming and logging are important economic drivers. Other respondents commented that refuge lands integrate well with community goals to maintain certain desirable qualities such as "rural," "remote," and "unspoiled," and provide recreational activities. Some people noted that refuge lands also play a role in protecting water quality and quantity, filtering pollution, and protecting against flood events.

The alternatives differ in the extent to which refuge staff will work in partnership with local communities to achieve mutual goals. We primarily cover this topic in chapter 4 under goal 4.

(2) Should the refuge allow commercial outfitting and guiding in support of compatible activities?

We heard a range of opinions about the desirability of guided or group tours to facilitate compatible wildlife-dependent activities on refuge lands. Several individuals expressed concern that guided tours are known to occur, but do not appear to be regulated, and there are no controls or enforcement. We heard from

people who enjoy a more solitary experience on their refuge visits and would not enjoy encountering guided groups. Others expressed their concern that outfitting and guiding would adversely impact areas already near capacity because they would facilitate getting more visitors to those areas.

Others supported outfitting and guiding as an activity, because it was their livelihood, or because they believe it enhances visitors' experiences by providing safe and accessible opportunities for viewing wildlife, photographing nature, hunting, or fishing. These supporters also believe it encourages an outdoor experience for individuals who are either inexperienced or not comfortable going out to natural surroundings alone.

Our alternatives differ in the range of allowing and accommodating commercial outfitting and guiding. We primarily cover this topic in chapter 4 under goal 3. Common to all alternatives, however, is that Service policies would be followed if these commercial activities are allowed. According to Federal regulations and Service compatibility policy (603 FW 2), we may only authorize public or private economic uses of the natural resources on a refuge in accordance with 16 USC § 715s and 50 CFR § 29.1 when we determine that the use contributes to the achievement of the refuge purposes or the Refuge System mission. We may authorize an economic use, such as commercially guided trips, by special use permit only when the refuge manager has determined the use is appropriate and compatible. The permit must contain terms, conditions, and stipulations to ensure compatibility. Our authority to administer these activities is reserved for only lands and waters where the Service has an ownership interest.



Great blue heron

Lee Karney

Community Relations and Partnerships

- (1) How do we improve the visibility of the Service and the refuge in the local communities affected by our work? Given the geographic range and area of influence of this refuge, how do we best communicate with, or outreach to, the communities throughout the watershed affected by our management?

A number of respondents expressed concern that the refuge does not have a high enough profile or presence in the watershed. They suggest the refuge itself is not even known in certain areas. There were some who would like the refuge to be a more integral part of the economic and social health and vitality of local and regional communities. Many ideas were expressed on how to raise visibility, improve outreach, and engage people. One other suggestion was to ensure a transparent planning process with frequent opportunities for local communities

to participate and share information. We direct readers to review the differences among the alternatives in chapter 4 under goal 4 related to local community partnerships and private lands coordination.

(2) What partnerships should we maintain or develop to meet refuge purposes, goals, and objectives?

Most commenters applaud the refuge's extensive and diverse partnerships. Virtually everyone recognized that the scope and scale of the watershed necessitates partnerships as the only way for successful conservation. Most agreed that no entity alone has the capacity to address all the priority issues and opportunities. That being said, there were some people who suggested that the refuge was spreading itself too thin among partnerships and should focus attention on either a particular subregion within the watershed, or on certain programs or partners, in order to narrow the focus. One solution suggested was to substantially increase staffing levels to allow refuge staff to work more closely with state agencies, local town governments, private landowners, and organizations, or with nontraditional partners such as the forest product and agricultural industries.

The role of partnerships was recognized by the planning team as being important enough to establish as a separate goal in the final CCP/EIS. The alternatives differ on the partnerships that would be promoted and the geographic areas within the watershed that would be a priority for partner collaborations. The discussion on partnerships is primarily covered in chapter 4 under goal 4.

(3) How can we best coordinate resource management with state and Federal agencies with jurisdiction in the watershed?

This issue is related to issue #20 above. It represents a particular partnership of importance to us. We address how the alternatives support partnerships with state and Federal agencies in chapter 4 under goal 4.

Administrative Resources

(1) What staffing and budgets are needed to effectively administer the refuge and provide good customer service?

We heard a range of opinions on whether or not the refuge should increase their budget and staffing, and whether current levels are adequate. Some people were opposed to any additional budget or staff increases because they do not want the Federal government to grow further. Others commented that they would rather see funding go to local contractors and businesses for work needing to be done, or to state agencies or partners via cooperative agreements.

Many people expressed concern about our ability to maintain existing and proposed infrastructure and implement programs on this refuge, given current levels of staffing and funding. They recognized the logistical challenges of our staff trying to manage the refuge land base, which straddles four states and is stretched along hundreds of miles. We also heard their observations that the refuge's capability is currently limited as evidenced by the challenges in implementing habitat management projects, conducting inventories and monitoring, conducting outreach to raise the visibility of the refuge, and staffing visitor contact facilities. They expressed concern that any new proposals in this final CCP/EIS would further exceed capabilities of annual budget allocations, thus raising unrealistic expectations. We heard acknowledgement that funding can vary widely from year to year because of shifting demands in the Congressional appropriations process, posing management challenges for the refuge. Other people supported our pursuit of new management objectives

and strategies, including those that may increase staffing and budgets, in the hopes that the final CCP/EIS will serve as a strategic guide to establish new partnerships and identify other sources of funding. Some people had suggestions on what new staff should be a priority to add, including the need for increased law enforcement capability on refuge lands.

Common to all alternatives is the following statement that will be prominent in the final document:

“Comprehensive Conservation Plans (CCPs) provide long-term guidance for management decisions on a refuge and set forth goals, objectives, and strategies needed to accomplish refuge purposes. CCPs also identify the Service’s best estimate of future needs. These plans detail program levels that are sometimes substantially above current budget allocations and, as such, are primarily for Service strategic planning and program prioritization purposes. CCPs do not constitute a commitment for staffing increases, operational and maintenance increases, or funding for future land acquisition.”

Otherwise, the alternatives recommend varying amounts of funding and staffing (both permanent and seasonal) to support their respective objectives and strategies over the next 15 years. In chapter 4, staffing needs are identified as strategies under appropriate objectives. Appendix H portrays staffing charts for each of the alternatives. Appendix G summarizes staffing, project, and maintenance budgets to support the Service-preferred alternative.

(2) What refuge administration facilities do we need and where should they be located?

We heard concerns about whether existing refuge administrative facilities are adequate, including office, storage, and maintenance facilities. Issue #14 deals with issues about visitor services facilities, so they will not be addressed here. Some partners find it challenging to interact with the current refuge staff because they are spread out across three facilities. Some people also questioned whether the refuge headquarters in Sunderland, Massachusetts, was in the most strategic location to facilitate customer service and manage the land. People also wondered whether other refuge buildings are effectively being used, or are necessary to maintain, using the example of the buildings acquired on the Fort River Division. Also, we heard complaints that the Nulhegan Basin Division’s office in Brunswick, Vermont, is too large and therefore underutilized.

Common to all alternatives is maintaining a staff presence in the refuge’s Sunderland, Massachusetts, and Brunswick, Vermont, offices. However, the alternatives differ in staffing other facilities, and in the use of the Fort River and Nulhegan Basin Division’s respective buildings as a community resource. We primarily cover this topic in chapter 4 under goals 2 and 4.

